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IMPLEMENTATION OF RESEARCH STRATEGIES AND TACTICS FOR DEMONSTATIONS OF NEWER MEDIA.

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A DEMONSTRATION PROJECT, KNOWN AS "PROJECT DISCOVERY," WAS CREATED AND OPERATED BY FOUR SCHOOL DISTRICTS AND SEVERAL PARTICIPATING COMMERCIAL AUDIOVISUAL PRODUCTS MANUFACTURERS. THE PURPOSE OF THE DEMONSTRATION WAS TO CREATE SINGLE-BUILDING AUDIOVISUAL FACILITIES WHICH WOULD ELIMINATE MOST OF THE LOGISTICAL AND TECHNICAL PROBLEMS ASSOCIATED WITH THE USE OF MOTION PICTURES AND FILMSTRIPS IN CLASSROOMS. IN EACH BUILDING, EVERY CLASSROOM WAS EQUIPPED WITH AN AUTOMATIC-THREADING MOTION PICTURE PROJECTOR, AND AN AUTOMATIC-THREADING FILMSTRIP PROJECTOR, A PROJECTOR CART, A PROJECTION SCREEN, ROOM-LIGHT CONTROLS, AND ELECTRICAL MODIFICATIONS AS NECESSARY. IN EACH BUILDING, A GENERAL LIBRARY OF APPROXIMATELY 500 FILMS AND APPROXIMATELY 750 FILMSTRIPS WAS PLACED FOR THE EXCLUSIVE USE OF THE 20 TO 30 TEACHERS IN THE BUILDING. TEACHERS WERE FREE TO USE THE MATERIALS AND EQUIPMENT IN THE MANNER AND AMOUNT OF THEIR CHOICE. THE RESULTS OF THE STUDY SHOWED THE OBJECTIVES OF THE PROJECT WERE ACHIEVED IN THAT ALMOST ALL TEACHERS IN ALL SCHOOLS WERE ABLE TO OBTAIN AND USE THE MEDIA LIBRARY AND EQUIPMENT AVAILABLE IN EACH BUILDING. SOME DIFFICULTIES WERE FOUND IN ESTABLISHING THE MEDIA LIBRARY AND IN PROVIDING SUFFICIENT INFORMATION SERVICE RELATED TO THE MEDIA COLLECTION. POSITIVE BENEFITS FROM THE PROJECT WERE FOUND IN EFFECTS ON CURRICULUM, ON STUDENTS, AND ON SCHOOL MORALE. (TC)

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FINAL REPORT
Project No. 5-0264
Contract No. OE-5-16-016

IMPLEMENTATION OF RESEARCH STRATEGIES AND TACTICS FOR DEMONSTRATIONS OF NEWER MEDIA

September, 1966

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

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Implementation of Research Strategies and Tactics For Demonstrations of Newer Media

Project No. 5-0264
Contract No. OE-5-16-016

Sidney C. Eboch

September, 1966

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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ACKNOWLEDGEMENTS

Reports have to be written and circumstances have dictated that this one be done by an individual. The study reported here is the work of eight persons.

Egon G. Guba, Assistant Director, School of Education, Ohio State University; Wesley C. Meierhenry, Assistant Dean, Teachers College, University of Nebraska; and the writer spent two or more years in the cooperative development and direction of this study.

The study was made in four cooperating school districts by the dedicated efforts of four "Project Residents," actually our research associates:

Kathleen Gnifkowski O'Keefe at Shaker Heights, Ohio;
John Bybee at Daly City, California;
William Craig at Washington, D.C.;
Thomas Owens at Terrell, Texas.

These associates contributed substantially to the design of the project, performed the study on the sites indicated, and prepared summary drafts of selected portions of the data. William Pilder, research assistant, prepared preliminary analyses and summaries of selected portions of the data in addition to rendering substantial assistance to the writer throughout the life of the project. Thus, there are eight "authors" for the study reported here.

All of the project staff wishes to acknowledge with professional and personal appreciation the excellent cooperation of the participants in "Project Discovery"; an independent demonstration situation which provided the event which was studied. Project Discovery was created and operated by:

Shaker Heights Public Schools
Shaker Heights, Ohio
(Mercer Elementary School)

District of Columbia Public Schools
Washington, D. C.
(Scott Montgomery School)

Jefferson Elementary School District
Daly City, California
(Thomas Edison Elementary School)

Terrell Public Schools
Terrell, Texas
(The Primary School
The Intermediate School
John F. Kennedy Elementary School
Burnett Junior-Senior High School
Terrell High School)

Bell and Howell Company
Chicago, Illinois
(Photo Products -- AudioVisual Section)

Encyclopedia Britannica Films Incorporated
Chicago, Illinois
(Research and Development Divisions)

The schools graciously permitted this study to be made during their independent operation of the project during the school year 1965-66.

As the report shows, each district's administrative staff and virtually every member of each building staff contributed to this study. We are grateful to all but would especially note the assistance of the principal project leaders in each district:

Mr. John Belforte, Thomas Edison School, Daly City, California
Mr. Nathaniel Dixon, Scott Montgomery School, Washington, D.C.
Mrs. Dorothy Hester, Terrell Public Schools, Terrell, Texas
Mrs. Alice VanDeusen, Mercer School, Shaker Heights, Ohio.

In addition, there were six to twelve teachers who served as "panel teachers" in each district. These teachers gave freely of their limited time each month to provide continuous interviews on the progress of the project.

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This report has been prepared in compliance with the publication Instructions for Preparing Substantive Reports Based on Research Projects Supported by the Office of Education, Bureau of Research; (GPO 908-451), issued July 29, 1966.

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ERRATA

P. 6, paragraph 1, for "objectives" read "objections"

P. 15, paragraph 7, information from student cards is included on pages 11B and 12B of the Appendix

P. 18, paragraph 3, for "65 film" read "66 films"

P. 55, paragraph 4, line 4, add "neither"

P. 89, paragraph 1, for "receiving" read "received"

P. 90, paragraph 1, line 3, for "at them" read "at the end"

P. 90, paragraph 2, line 2, read "--bigger than a book--"

P. 98, paragraph 3, line 13, for depth: read "depth"

P. 130, last line, for "Appendix A" read "Appendix B 11, B 12"

P. 134, paragraph 1, line 6, for "carrying" read "varying"

CHAPTER I: INTRODUCTION

Studies of the innovation process in agriculture, medicine and, to some extent, in education indicate the crucial part played by actual demonstration of new practices in producing desired changes. In education particularly, it is important that demonstration of new techniques, processes, and materials be encouraged in order to assist schools and school people to close the gaps between what schools are and what they should be in our rapidly changing and ever-more complex culture. There should be wide-spread dissemination of information about these demonstrations and their characteristics should be such that they' can be transferred into practice in similar school situations. In many instances, however, demonstrations fail or are not accepted by other educators, either because they are based on only experimental research with little built-in evaluation, or the field research conducted in conjunction with the demonstration is based on research designs suited to controlled experimentation but of little value in the naturalistic setting. For these reasons and others, implementation of new educational media has not been wide-spread or penetrating in the whole of American educational school systems. However, there is a receptive climate for new education media and many demonstrations now occuring in the public schools directly involve newer educational media.

The logic of demonstration activity could be described as follows:

1. Educators will adopt those practices which are supported by practical evidence.

2. Demonstration provide practical evidence for decision-making because:

    a. demonstrations are visible, therefore evidential;

    b. demonstrations are operational, therefore practical;

    c. visible operations are practical evidence.

However, when more closely examined in the real world of demonstrations, some of the assumptions of these statements appear glib. When examined more fully, certain paradoxes appear to be present:

1. Media may be more visible than the practices they are intended to implement and demonstrate. It is easier to demonstrate and view the console of a language laboratory than to demonstrate and view the aural-oral concept of teaching.

2. The reality of a demonstration may be so explicit the viewer is unable to see an adaptation for his own situation. It is common to hear a demonstration-viewer say: "It works fine here, but my situation does not include the personnel, space, money and resources which make this possible."

3. The demonstration usually lacks information essential to a decision-maker. Since no demonstration is made of poor practices, demonstrations are surrounded by an aura of success that precludes negative information. The demonstration-viewer, however, needs the maximum information in making a judgment and maximum information includes problems, pitfalls, and reasons for rejection.

4. The visible operations in a demonstration represent an achieved goal, not the process by which it was attained. If the demonstration-viewer is to adopt the practice, he needs information concerning the means of achieving the goal. The reality which is demonstrated is the '"end" not the"means".

Thus, demonstrations need a context of information which goes beyond the simple "telling and showing" aspects. The context of information should be designed to assist the demonstration-viewer in making the decision he faces. This context should include information which:

a. emphasizes the practice, not the media;

b. generalizes the practice to other settings;

c. presents positive and negative factors;

d. explains the process of development in replicating the demonstration situation.

The growing importance of the problem can be seen as education moves its concept of demonstrations from a classroom technique to an instrument of national information dissemination. The systematic application of demonstrations to new media in education has been a function of NDEA legislation. The continued and expanded use of demonstrations is clearly evident in recent Federal legislation. It appears useful to develop the information resources which can support decision-making invited by demonstrations.

Objectives:

The objective of this study was to develop selected information for the purposes of supporting a demonstration. Specifically, this project sought:

a. To describe the instructional and administrative processes in a demonstration of the use of new media;

b. To record positive and negative results and effects of the demonstration and record the rationales for decision-making in the immediate situation;

c. To define the specifics of the immediate situation in a context which permits and encourages generalization to other settings;

d. To describe the evolution of the demonstration and the administrative, logistical, and process decisions which might enable others to implement the demonstration in other settings.

Thus, this study was to be a "fact finding" phase of a sequence of studies on qualities of effective dissemination and demonstration activities in education. The expectation was that the information collected in this study would be used in a dissemination and demonstration program. During the operation of the dissemination and demonstration program, the utility of the information collected would be measured and selected dissemination and demonstration activities would be tested. This study was to be only the base of a longer study of dissemination.

The Demonstration Situation Studied

The study was made of a demonstration situation independently created and operated by four public school districts and several commercial organizations related to educational media products. The schools and companies (See Acknowledgements) had already agreed on the broad outlines of their demonstration situation and one of four school districts was in actual operation one year prior to the start of this study. Their name for the demonstration situation was "Project Discovery."

Project Discovery was initiated in the Spring of 1964 through a series of meetings and conversations between Donald G. Emery (then Superintendent of the Shaker Heights Public Schools, Shaker Heights, Ohio), and Andrew G. Scarborough, Jr. (Educational Manager, AudioVisual Section, Photo Products Division, Bell and Howell Company), and Wayne Howell, (then Director of Education, Encyclopedia Britannica Films Incorporated). A joint statement of the two companies intent was issued May 26, 1964. The initial school site at Shaker Heights was announced in June, 1964. The following quotation from the statement by Mr. Howell and Mr. Scarborough summarize the situation to be created:

> The following factors seem to be basic for achieving optimum conditions for maximum utilization of motion pictures and projectors in the elementary school curriculum program.
>
> 1. Placing an abundance of motion pictures and filmstrips (approximately 500 motion pictures and 1000 filmstrips) in a single elementary classroom building on open shelves as part of the centralized instructional materials collection.
>
> 2. Placing an automatic self-threading 16 mm motion picture projector and an automatic film-

strip projector permanently in each classroom and having other projectors available for individual and small group use within the library and conference rooms

3. Provide darkening control, projector stands and large wall screens for every classroom

4. Elimination of all physical deterents to optimum group and individual utilization practices

The teachers should discover their own procedures for the most creative and effective use of the film medium. They should be given the opportunity to seek their own level of film use over an extended period of time, possibly three or more years.

Today's teaching needs require a great flexibility and spontaneity in the educational process, and the film medium gives the teacher immediate access to unique and valuable resources not otherwise obtainable.

It is with these conditions and objectives in mind that B & H and EBF will be equipping three elementary school buildings with a "saturation" of films and equipment. The selection of the three elementary school buildings will encompass various socio-economic areas. The impact on the educational process will occur within the on-going curriculum program. The purpose is not to reorganize the courses of study or to pressure the teaching staff to modify their methods or subject content, but rather to make available an abundance of quality films, the most versatile automatic self threading projection equipment, and the provision of consultant assistance to meet the utilization and organization needs of the particular school. Periodically, new materials will be provided which can be evaluated and systematically added to the film library.

Thus, the project (which eventually would include four sites, rather than the three mentioned in the initial statement) was intended to demonstrate "the maximum availability" concept.

The maximum availability concept in educational media or audiovisual education is the dream of every field in education: "If we only had ideal conditions we could prove how valuable our basic ideas are." Most of the major stumbling blocks to the use of educational media are summarized in the phrase "lack of availability." This phrase could mean any of the following conditions and many more: Equipment and materials are too expensive; Equipment is too difficult to operate; Too few materials are available; Teachers have to order materials for classroom use too far in advance of intended use; Teachers have to wait for materials to arrive; Teachers have to use materials when they are available not when the students need them; Room conditions such as light and ventilation control make the use of projected materials inadequate or impossible. And Project Discovery was intended to eliminate virtually all of these objectives and provide the teachers with maximum freedom in the selection and use of materials.

Thus, Project Discovery was literally a demonstration of the maximum availability concept. To the participating schools it would be a collection of resources beyond their apparent or real capabilities. To the companies--if it worked well--it would be an operational example of the value of their products. To education it would be a test of the utility of audiovisual materials.

Time and circumstance led to the selection of three additional sites: The District of Columbia Public Schools; Jefferson Elementary School District, Daly City, California; and Terrell, Texas. The sites were selected by the Bell and Howell Company and Encyclopedia Brittanica Films Incorporated. Mr. Howell and Mr. Scarborough visited several schools in various parts of the country. Among the criteria which influenced selections were geographic distribution, varying socio-economic conditions of the areas, strong administrative leadership at the building and district levels, administrative agreement that teachers would be free to use the media in the manner of the teacher's choosing, and acceptance of the project by the specific faculties of the buildings selected. A single elementary school building was selected at Shaker Heights, Ohio (Mercer School); Washington, D.C. (Scott Montgomery School); and Daly City, California (Thomas Edison School). In Terrell, Texas, three elementary schools and two high schools (the entire school system) were equipped.

Origin of Research Relationships

All of the participating districts expressed a desire to study the demonstration situation but they lacked the immediate personnel and resources to accomplish the studies. The companies recognized the implications of commercially supported research where their own products were so critical in the situation. Mr. Howell visited Dr. Anna Hyer (Executive Secretary, Department of AudioVisual Instruction, National Education Association) to obtain recommendations of persons who might be competent and interested in conducting some type of independent study. Dr. Hyer suggested Wesley C. Meierhenry (Assistant Dean, Teachers College, University of Nebraska). Mr. Meierhenry suggested a meeting of persons connected with educational research and audiovisual education. At the time of these discussions, most of the sites under consideration were located in Eastern states and Shaker Heights, Ohio, had already been selected. Thus, Egon G. Guba (then Director, Bureau of Educational Research, Ohio State University) was one of the group in the initial meetings.

It was the opinion of some participants in the meeting that each school district might secure the cooperation and assistance of a neighboring higher education institution. It was the opinion of others that probably no adequate research could be conducted under the circumstances.

1. The entire project specified that teachers would be free to use the materials as much or little as they chose and in the manner of their choice.

2. One of the schools was already operational and the others would be mounting the demonstration situation so quickly there would be no time or opportunity to secure adequate pre-project measurements of anything.

It seemed hopeless to conceive any study (in a controlled, experimental research sense) on the effects of the use of the materials and equipment under the existing circumstances.

A Further Look

During the Fall of 1964, the writer, as a member of the Bureau of Educational Research at Ohio State University, visited the various sites selected for the project. Several members of the Bureau and the School of Education at the University had been interested for some time in innovation and the study of the change process in public schools. Impending Federal legislation apparently was being directed toward speeding the innovation process and enlarging the demonstration activities of public schools. After visiting the active and future sites of the Project Discovery demonstration, it seemed possible that a study related to innovations and demonstration might be feasible under the existing circumstances. Mr. Meierhenry, Mr. Guba, and the writer, discussed the general problems of creating effective demonstration situations and conducting some useful research under naturalistic rather than controlled conditions.

The Bureau of Educational Research was already involved in some conferences related to these topics. An additional conference was proposed to explore these general problems, with specific applications to the Project Discovery situation. Such a conference was funded by the Office of Education and held in May, 1965, at Worthington, Ohio. From that conference, certain recommendations appeared feasible and worthwhile for use with demonstrations similar to the Project Discovery situation. (Full details of that conference may be found in the final report for NDEA Title VII-B contract OE-5-16-009, Novel Strategies and Tactics for Field Studies of New Educational Media Demonstrations, Sidney C. Eboch, Editor)

From experience with the Project Discovery situation and recommendations of the conference indicated above, the study reported here was generated and proposed to the United States Office of Education.

The study was funded July, 1965, and continued through September, 1966. Mr. Guba, Mr. Meierhenry, and the writer were joint directors of the study. Central offices were located at Ohio State University and staff members resided and worked in each of the Project Discovery sites during the entire school year.

CHAPTER II: METHOD

The basic problem was the collection of selected types of information from an evolving demonstration in the natural setting of operational schools. The precise content of the information could not be completely predicted. Change was to be described but the nature of change could not be anticipated. Process was to be described but the process would be developing and changing. Impact was to be assessed but the place, nature, and amount of impact was unknown. We could watch and describe but it wasn't crystal clear what would occur.

The characteristics of the demonstration being observed made it impossible to impose any controls on the participants. In addition, any gained information was not to be given to the participants in order to reduce any influence the study itself might have. We could watch if we didn't interfere but we could not talk.

Under these circumstances the most feasible, economic, and productive technique appeared to be the "participant-observer." The participant-observer is most like the anthropologist who visits a "foreign" situation, lives in it, watches everything, talks to everyone, and attempts to describe life as it is lived in the particular environment. This, then, was the basic method of the study: the placement of an "observer" in each of the four schools participating in Project Discovery.

The observers, or Project Residents as they came to be known, were selected and trained at Ohio State. A series of data collection instruments were developed and used by each Project Resident at each site. Procedural details were developed for all activities, but variations were expected and occurred for each Resident and at each site.

Each demonstration site became a "case study" but because of the common training of participants, the common instruments and procedural framework, the data were summarized for all schools.

From approximately fifty persons, the four Project Residents were selected and trained at Ohio State University.

Each of the Residents had some experience or training in teaching and educational research. The four Residents * spent six weeks in an orientation and training program during which preliminary instruments for use in the study were developed. The orientation sessions included meeting and working with a representative of each of the school districts to which each of the Residents were assigned. The training sessions included work on classroom observation techniques, interview technique, attitude measurement, survey instrument development, and administration of schools and educational media.

At the end of the training session, and prior to the opening of the schools in Fall of 1965, the Project Residents moved to their assigned school communities to establish their residence and begin work.

During the last week of August and the first three weeks of September 1965, each Resident "tested" each instrument and technique developed in the training session. The Residents then returned to Ohio State University and worked an additional month on the correction and refinement of those instruments and procedures which seemed feasible at all sites.

Following the October meeting in Columbus, Ohio, the Residents returned to their respective school sites where they lived and worked full-time on this study for the remainder of the school year. Each Resident followed a schedule similar to the teachers in the building being observed. During the school day, the Resident would observe classroom use of media; interview teachers; collect, tabulate, and analyze media use reports; informally interview other school personnel; attend regular curriculum, grade level, and faculty meetings; review, collect and analyze pertinent school publications or community newspapers for pertinent information; write detailed reports on classroom observations and interviews; and communicate with the central office of the study as needed.

* The Project Residents and the schools in which they worked were: Kathleen Gnifkowski, Mercer School, Shaker Heights, Ohio; John Bybee, Thomas Edison School, Daly City, California; William Craig, Scott Montgomery School, Washington, D. C.; Thomas Owens, All schools, Terrell, Texas.

During the school year, each of the project directors made one or more personal visits to each of the school sites to consult with the Resident and review the local situation. Thus, each school site was visited three or more times by the project directors.

During April of 1966, the Residents returned to Ohio State University for a one week planning session on completing the study by the end of May. Following this final planning session, the Residents returned to the sites to complete the study. Two Residents remained at their schools until the school year officially ended; two Residents returned to Columbus two weeks prior to the close of school at their sites. Three Residents spent an additional month making data analyses and summaries of their respective findings for use in the preparation and writing of this report.

The major activities of each Resident at each site included;

1. Monthly interviews of a panel of teachers representing the various grade levels in the specific buildings. (The number of interviews per month per Resident varied from six to twelve.)

2. Classroom observations of complete teaching lessons involving media use as possible. (An average of ten observations per month were completed in each of six elementary school buildings.)

3. Interviews with building principals every three months. (In practice, because of the heavy duties of administrators, these interviews frequently required three or more meetings with the principal.)

4. Administration of survey questionnaires on teacher and student opinions and judgments in September and May.

5. Administration of a survey questionnaire for teachers regarding judgments about the past year's experience; May of 1966.

6. Systematic but informal interviews of school building personnel including secretaries, custodians, bus drivers, media and library workers.

7. Regular attendance and reporting of:

   a. local school board meetings,

   b. building faculty meetings,

   c. district or building curriculum or grade level meetings,

   d. PTA or other school events of pertinence.

8. Periodic study and reports on:

   a. visitors investigating Project Discovery,

   b. observed constraints on media use,

   c. local school use of library materials and other audiovisual media,

   d. local cost factors associated with the project,

   e. local published or broadcast items related to Project Discovery,

   f. other exploratory or special projects operating in the building.

9. Collecting, coding, and forwarding individual records of each media use made by teachers in the participating buildings. (This amounted to more than 17,000 records during the school year.)

10. Maintaining an "official" diary to record any all other observations or comments about the impact or change the project was having upon the school. (This could and did include comments on the successes, failures, and apparent requirements for personnel and procedures being applied in studies of this type.)

Residents were also instructed to pursue any serendipities which appeared useful to the study, but to conform to all local school requirements in performing any work.

****

Further details on instrumentation and procedures are placed in relevant sections of Chapter III and the Appendix.

CHAPTER III: RESULTS

The objective of the study was to develop information which could be used to improve the decision making process in demonstration activities which were to follow at the individual sites. The basic method was the placement of a "participant-observer" at each site to collect information about varied aspects of the project. Some common data collection instruments were available, but under the rule of "non-interference" in the basic project, information had to be developed for this study as opportunities existed.

A variety of techniques were used, e.g. formal interviews, informal interviews, survey forms, observation, document collection, and record analysis. Because techniques varied, each "unit" of information is reported separately in this chapter. Where background information or method seemed imperitive to understanding, that information has been included with the "results." In some instances additional information on method, sample, background notes or additional data has been placed in the Appendix. Discussion, conclusions, implications and similar comments have been placed in the following chapters.

A description of the school communities participating in the project under study has been provided in Appendix B.

MEDIA USE RECORDS

Knowing every school would be maintaining some type of record indicating the use of the media, the project staff developed four cards for use in all schools:

1. A Teacher-Use Card, indicating the classroom use of a specific film or filmstrip;

2. An Evaluation Card, indicating the individual teacher's evaluation of a specific film or filmstrip;

3. A Student-Use Card, indicating a student's use of a specific film or filmstrip at school or home;

4. An Other-User Card, indicating the use of media by someone not a teacher or student in the participating school.

Since the study was to be conducted under the maximum possible "non-interference" conditions, the cards could only be proposed to the participating schools; the use of the cards could only be suggested. At each school site the project Resident introduced the cards which asked for additional information beyond the number and title of the medium being used as well as the user's name. In general, the forms were accepted and used by the schools since the cards provided the minimum information (Who had what item?) the schools needed. One school district did reject the use of the Teacher and Evaluation cards. However, the form developed by this school was a one page paper version which included, almost exactly, the same information from both cards. This meant the local Resident had to transfer information from the school's paper forms to the project's card forms, but essentially the same information was available as would have been available if the project's card forms had been used directly. In other instances, teacher's acquired materials by sending or leaving notes for the media center librarian. Where these were available, the information was transferred to the standard cards used by the project. The cards were collected by the Resident and forwarded to the central office for processing.

The Teacher and the Student cards proved most useful. Some analyses from these cards are included in the accompanying tables.

The Evaluation card apparently proved burdensome to the teachers since these were used sporadically by all but a few teachers. Although some faculty members of each school expressed high initial interest in the evaluation of materials by other teachers, no school systematically used the evaluation cards and no school made any formal attempt to organize and use the information collected. However, the personnel and time requirements to utilize this information perhaps precluded its proper development. Mercer Elementary School and all the schools in Terrell, Texas, had worked on a rather extensive evaluation program the preceding year. Most of the evaluation cards collected came from the Terrell schools; the entire district was involved in a complete curriculum revision program which entailed weekly meetings of teachers previewing materials in grade-level or subject-area groups.

The Other User card was used less than 200 times in all districts. This was to be expected, perhaps, in view of the implied restriction for use of the materials within the single buildings. The Other users were primarily local community non-profit social agencies or local service clubs using an occasional film of direct interest to the group.

The Teacher-Use Card Tables

Data for the tables on the Teacher card are based on reports made by 127 teachers from the six elementary school buildings participating in the project. The reporting period was from September 1, 1965, through May 31, 1966. For each school district, this represented approximately all but two weeks of the school year.

The more than 13,000 uses reported of motion pictures and filmstrips represent a minimum of actual classroom use as reported by teachers. Some cards reported more than one showing of the medium being used. It is known that teachers borrowed films and filmstrips from other teachers and did not report this use on separate cards. Probably all teachers used some materials and, for one reason or another, never completed a card. Some cards were surely lost; in the final collection of cards in June, one school turned in six cards dated before January. Some cards collected by the Residents had inadequate information for identifying either the teacher or the type of material used. There is no means of estimating the number of unreported uses of media. However, all the data presented here represents teacher's reports of at least one-time classroom use of films or filmstrips for instructional purposes.

The distribution of the reporting teachers was:

Kindergarten	8	Fourth	20
First Grade	22	Fifth	18
Second	20	Six	15
Third	19	Special	5

Kindergarten teachers were located in only two districts; special teachers (art, music, or similar specialties being taught across all grade levels) were located in two districts.

TABLE 1: Five schools are designated. One of the schools indicated represents two different buildings in the Terrell school district; the Primary building consisting of the first three grades and the Intermediate building, grades four through six, have been combined to designate one first through sixth grade elementary school. This table equates the total number of teachers with the total number of recorded film and filmstrip uses, as represented proportionally in each of the five elementary schools represented in the study.

The table shows the variation in media use for each group of teachers. Variation would be expected since freedom for teachers to use materials in the amounts of their choice was one of the characteristics of Project Discovery. School E represents the closest approximation of teacher-group size to "anticipated" levels of media use. School A represents an "unexpected" low media use in comparison with the teacher-group size. School D represents an "unexpected" high media use in comparison with teacher-group size. School C shows a notable "low" use of filmstrips in comparison with teacher-group size.

TABLE 2: Reported classroom use of media is indicated by month of the school year. An "equal use" would have resulted

in 11.1% use of each media in each month. The "low" of September is partially accounted for by the beginning of school, three school districts not being in session for the full month, and the lack of "availability" for filmstrips in three schools. (The lack of "availability" was due to late shipment or late processing of filmstrips in the schools.) December and April reveal anticipated dips because of Christmas and Easter vacation periods in all schools.

TABLES 3 and 4: The variations in individual teacher use of film or filmstrip media are reported by schools. These variations were to be anticipated since teachers were to have the freedom to use the media in the amounts and manner of their choice. The lowest individual teacher use of films was recorded in School A by a teacher reporting the use of only four films for classroom instructional purposes. The highest individual teacher use of films was reported in School D by a teacher reporting the use of 187 films for classroom instructional purposes. The lowest individual teacher use of filmstrips was recorded in School C by two teachers who did not report the use of a single filmstrip. The highest individual teacher use of filmstrips was recorded in School D by a teacher who reported the use of 148 filmstrips for classroom instructional purposes.

TABLE 5: The number of teachers in all schools reporting various amounts of film and filmstrip use are combined. Although the range for films was 4 to 187 and the range for filmstrips 0 to 148, the median was 60 for films and 30 for filmstrips. The "average" use per teacher was 65 films and 37 filmstrips.

A Limited Perspective of Library Usage

It was impossible during the term of this study to determine the exact number of items in each media library. In all schools, including Mercer Elementary School (in its second year of Project Discovery) new materials were being added throughout the year. In some schools, shipments of materials or supplies were late and local school processing could not occur before school began. In one instance, it is known that a district media specialist withheld a block of materials for some months because of personal professional questions about the materials; it is believed all these materials eventually were placed in the school. Once school and use of the materials had begun, it became virtually impossible for the school to recall and physically inventory the available items. All schools would be able to make an adequate inventory over the summer months if sufficient personnel time were available. No school interrupted the use of the materials in order to collect statistics of relatively small value to it at the time.

If the assumption is made that a minimum of 500 films and 750 filmstrips were in each school, the total available films would be 2500 and the total available filmstrips would be 3,750. (These figures are known to be minimal from existing but incompatible records of the schools and the commercial media distributors.) The record of more 8,000 film uses and almost 4,700 filmstrip uses suggests the total film library was "used" more than three times while the total filmstrip library was "used" less than two times.

The question of whether the complete library was actually used would have to indicated by other data. In the case of filmstrip use, this was easily determined by the year-end totals of reported filmstrip use; four out of the five schools reported less than 750 filmstrip uses. In addition, it could be presumed that the reported filmstrip use represented some multiple uses of single filmstrips.

In late April, a tally was made of reported film use to date in three buildings. All available teacher-use cards were sorted by individual film title. The results are given in TABLE 6, After seven months of availability, for the three schools checked one school reported use of approximately 60% of the total available titles. Very few titles were used more than eight times and roughly 20% of all titles were used but once.

Table 1: Proportional Media Use by School

School	% of Total Teachers	% of Total Film Use	% of Total Filmstrip Use
A	15.7	10	11.3
B	21.2	22	14.9
C	16.5	13.4	3.5
D	26.8	35.7	49.9
E	19.7	18.9	20.3

Base Data: 127 teachers; 8337 recorded uses of film; 4699 recorded classroom uses of filmstrips.

E.g.: School A, with 15.7% of all teachers, reported 10% of all recorded film use and 11.3% of all recorded filmstrip use.

Table 2: Recorded Media Use by Month

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
FILMS	3%	12.5%	11.7%	7.9%	13.4%	12.2%	14%	11.1%	14.2%
FILMSTRIPS	1.8%*	11.6%	15 %	7.5%	15.3%	15.3%	14.2%	10.1%	9 %

* Only two out of five schools reported filmstrip use in September.

Base Data: 8337 recorded classroom uses of films and 4699 recorded classroom uses of filmstrips in five elementary schools, grades K through 6.

E.g.: In September 3% of 8337 classroom uses of film was recorded from five elementary schools.

Table 3: Range of Recorded Film Use, by School

School	Range of Use By Individual Teachers	Median	Average Number of Films Used By Each Teacher
A	4-116	33.5	42
B	14-177	59	68
C	10-110	50	53
D	12-187	85	87
E	12-142	59	63

Base Data: 127 teachers; 8337 recorded classroom uses of films.

Table 4: Range of Recorded Filmstrip Use by School

School	Range of Use by Individual Teachers	Median	Average Number of Filmstrips Used by Each Teacher
A	2-65	22	27
B	2-57	35	26
C	0-24	8	8
D	8-148	78.5	69
E	2-147	31	38

Base Data: 127 teachers; 4699 recorded classroom uses of filmstrips.

Table 5: Range of Recorded Media Use, by Teachers

Number of Items Reported as Used	Number of Teachers Reporting Use of Films	Filmstrips
0-10	2	26
11-20	10	23
21-30	12	19
31-40	17	20
41-50	15	6
51-60	11	2
61-70	8	3
71-80	10	5
81-90	8	4
91-100	4	1
101-110	4	1
111-120	7	4
121-130	3	1
131-140	3	2
141-150	1	1
151-160	1	0
161-170	0	0
171-180	1	0
181-190	1	0
191-200	0	0

TABLE 6: The Multiple Use of Films in Three Schools, September to April

No. of Separate Film Uses Reported for Individual Titles	Number of Films Reported in Each Single or Multiple Use Category -- By Schools			Total Number of Classroom Uses Represented
	X	Y	Z	
1	139	102	132	371
2	112	81	59	504
3	66	69	29	592
4	71	57	21	596
5	32	43	20	465
6	37	31	19	522
7	27	32	7	462
8	13	22	6	328
9	6	6	1	117
10	5	6	3	140
11	4	2	1	77
12	1	0	0	12
13	3	2	0	65
14	1	0	0	14
15	1	2	0	45
16	2	1	0	48
17	1	0	0	17
23	1	0	0	23
Total Number of Films Used:	532	455	298	
Total Classroom Uses Reported:	1810	1708	782	4300

CONSTRAINTS ON MEDIA USE

Since "Project Discovery" was an attempt to provide the "maximum availability" of media, Project Residents attempted to note all constraints on media use. It was obvious that complete freedom from constraint would require the total library to be always available to each teacher. Since this condition did not exist, either constraints or chaos would be present.

Instructions to Residents regarding this situation included the following:

1. A "constraint" is defined as any policy, procedure, act or circumstance which prevents any teacher from having available and being able to use any one or more items of Project Discovery materials at the time and place of the teacher's choice.

2. It is obvious that complete freedom from "constraint" as defined is not possible. The purpose of this portion of the study is to observe and record the circumstances which evolve to produce more or less constraint upon the "maximum availability" concept of Project Discovery. In addition, the study seeks to document the same circumstances for students and others who have access to the materials, since these "secondary constraints" are presumed to be related to preserving teachers' rights" to the materials.

3. Constraints should be anticipated in two ways: Formal and Informal. Examples of formal constraints would be those contained (a) in documents such as policies and procedures for the Project Discovery materials, the Media Center (Instructional Materials Library), or the school library; (b) announcements from the Media Center or library; (c) Principal's bulletins or printed announcements; (d) announcements from the Principal, School Media Specialist, or Librarian at faculty meetings, curriculum meetings, PTA meetings; and similar circumstances. Examples of informal constraints would be (a) borrowers of Project Discovery materials not returning the items on time; (b) informal procedural changes made

by the person(s) checking Project Discovery materials from the media library; (c) Project Discovery materials being loaned for extended periods of time to persons using the materials outside the school building for non-classroom instruction; (d) lost, damaged, or mis-filed copies of Project Discovery materials; (e) inadequate electrical power or room darkening in the classroom; no available screen; equipment failure with no parts or substitute equipment available; and similar circumstances.

Constraints were noted in all buildings participating in the project. There was no means available to measure the impact of constraints upon media use. Available data on media use and responses of teachers to the final survey of opinion on the project provide complementary data for interpreting the impact of constraints. The information on constraints was considered relevant for other schools making decisions for adopting, modifying or rejecting a duplication of the project.

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"Official" constraints in the form of published guidelines or requirement for media use were few in number. At least one school issued no written announcement of any type. For the few standard practices or procedures "adopted" by a faculty, little permanent effect was noted. In general, the sequence of events would be as follows:

a. Some problem of conflicting demands upon the materials or equipment would come to the attention of some faculty members of a local school adminstrator.

b. The problem would be raised, many times informally. in a faculty meeting.

c. Discussion would follow with some consensus around a few simple restrictions; e.g.: Teachers or students limited to a use of XX number of films or filmstrips at one time.

d. The problem ceased to demand group attention or formal action, although the new restrictions were never totally enforced or practiced by those on whom the restriction was placed.

The discussion of any problem apparently either minimized the problem or eliminated further complaint. It was apparent to the Residents that some teachers continued to follow those practices which were most convenient for them.

"Semi-official" constraints were imposed on two schools by administrators responsible to the district at large. In one case the school was equipped with drapes providing a low level of room lighting; the rationale of the administrator was classroom interaction cannot occur in a well-darkened room, Some teachers in this building felt they could not use materials at certain times of day when the room would be too light. The decision on room darkening was outside the building's control and was not modified when complaints were made. In one case some materials were withheld from the building library by an administrator with district wide responsibility. The rationale was objection to the materials, because of mixed reviews of the materials by a professional organization. When the building principal learned of this action, he voiced a protest directly to the specialist; it is believed the materials were eventually placed in the building library.

Random "semi-official" constraints arose in each of the districts by the actions of persons in charge of the media library. These were frequently temporary unilateral actions of the persons involved because of problems faced in the media library. In one case, the media library was open only at restricted hours so the employee could complete other work. In one case, the media library was closed to noon-time use because of crowded conditions. In one case, the librarian made no attempt to assist students in use of the audio-visual materials after school because of problems in setting up the equipment. Temporary and inexperienced assistants in the media libraries frequently imposed simple rules to cope with the situation; e.g. three items per student for checkout, no student operation of the "expensive and complex" equipment. In one school, several teachers were inconvenienced by "unannounced borrowing" of equipment for a few public events of the school when several projectors were needed at one time.

The policy of equipment and materials being loaned to students overnight created several isolated instances of constraint. Since motion picture projectors had to be returned by parents, there were occasions when the projector was returned after school had started. A few machines were damaged or temporarily disabled; e.g. a cracked lens, an electrical cord burned. Some materials were damaged on overnight loan to students and withdrawn temporarily from use. In general, however, the inconvenience was far less than that anticipated by teachers who commented on this to the Residents.

Physical or technical problems were present in every school. In one district nine classrooms remained without adequate room darkening throughout the year, while other classrooms were not equipped until February. In another school room darkening for some rooms were not installed until December. In one school adequate power for all rooms was not provided for two months. In one school, one teacher had a circuit breaker fail on four occasions. In one school, one room was darkened by shades except for a single door with a large glass panel; the door faced outside on the sunny side of the building. In one school the custodian noted the continued loss of adapter plugs required for use of the equipment in conventional electrical outlets; this occurred most frequently when equipment went on overnight loan but it meant the teacher could not use the equipment until another adapter had been located.

Occasionally some minor problem arose with the equipment. Projection lamps which were burned out were not replaced immediately; minor malfunctions such as a noisy projector would go unreported. Frequently these temporary inconveniences went unreported by the teacher, sometimes because the teacher did not want to be without the equipment for a few days. This occurred even though projection lamps were stocked in the building continuously and stand-by projectors were available in the building; repair service was provided at no cost to the school by a local service agency associated with the equipment manufacturer.

Materials were damaged and occasionally there would be some delay in procuring replacement or repairing the materials. In one school the media librarian "saved up" the damaged materials until there was enough to send to the commercial distributor for replacement. In one school, films and filmstrips needing repair literally filled up baskets. These situations occurred even though the commercial distributors offered to replace materials.

In each school except Shaker Heights (which had been operating the project the previous year), delays in the shipment and processing of materials occurred, leaving teachers without some materials for as long as two months. Delay in the arrival of the materials presented further problems to the schools in that most arrangements for processing the materials for library use had been made for the previous summer. The schools were then faced with a personnel and time problem in processing the materials for immediate use.

Some constraints could be termed "curriculum" in nature. Teacher's access to materials was in part controlled by the available information on the available materials. In at least one school, some teachers were not provided with film guides for two months. In more than one school teachers noted the presence of film guides for films which apparently were not available in the media library. Filmstrips guides were never available to any school. Some schools did not provide printed lists of available materials to each teacher. Thus, the teachers' choice in several instances was to visit the media library and search the materials which were still on the shelf. In one school, teachers were required to use a television series as basis for the science curriculum; they felt this placed a constraint on their use of the media library materials in science because of the limited time available for science in the total curriculum. (Other teachers keyed their use of the media library science materials to the television programs when they could.) Conflicts were noted in each school district when teachers at the same grade level would want to use the same materials at the same time. This resulted in some teachers rearranging their schedule or passing on to other activities rather than wait for the desired film or filmstrip.

In one school, the greatest single constraint was the "hoarding" of materials by teachers. Materials would be checked out or simply taken from the shelf for a week or longer. The practice was so widespread it became a matter to be handled by a faculty committee. However, the practice continued and teachers freely borrowed from each other those materials they could locate. The media librarian began to tour the building periodically to locate any available items. Immediately following these tours this study would acquire an unusually large collection of teacher-use cards. In another school it was noted that more than twenty films were retained a month or longer by individual teachers.

CLASSROOM OBSERVATIONS

Between October and May, Project Residents observed 410 classroom lessons in the six elementary school buildings participating in the project. Data on the observation sample will be found in the appendix. Residents used a three-page prepared form to record the circumstances and events observed. Four general types of information were recorded: identification and sampling factors, class activities prior to media use, characteristics of media use, post-media use activities. Information from the observation records was converted to data processing cards which were then used with a questionnaire analysis program.

In the data provided here, the percentage figures represent the proportion of times the event or characteristic was recorded for the 410 lessons observed.

Were print media used in conjuntion with the audiovisual media?

No print media observed in use	70.7%
One print media observed in use	25.2%
Two print media observed in use	3.9%
Three print media observed in use	.2%

What specific print media were observed in use?

Textbooks	9.8%	Newspapers	1.2%
Reference Materials..	2.0	Duplicated Materials .	4.8
Supplementary Books .	2.4	Workbooks	1.2
Pamphlets	.7	Unidentified by Type .	6.0
Magazines	1.2		

What were the audiovisual media used?

For the 410 classroom observations, the audiovisual media indicated were in use the proportion of lessons indicated.

Films (16mm)	72.9%	Disc Recordings	0.5%
Filmstrips	30.1%	Tape Recordings	0.7%
Slides	0.2%	Bulletin Boards	4.4%
Overhead Transparencies	0.5%	Chalkboards	40.1%
Study Prints	5.1%	Maps or Globes	7.3%
Reading Machines	0.2%	Models	5.6%

In some instances the number of media in use varied for a given lesson:

Only one media in use	48.9%
Two media in use	36.4%
Three media in use	11.5%
Four media in use	2.7%
Five media in use	0.2%

Observers attempted to determine the number of times the specific film or filmstrip had been used by the specific teacher and class being observed. For the observations made, the film or filmstrip was being used for the time indicated in the proportion of lessons indicated.

First time use of the specific material	78.2%
Second time use of this material	8.8%
Third time use of this material	3.9%
Number of uses not known	9.0%

Who completed the procedural tasks associated with projection?

Observers were asked to identify all persons performing the procedural tasks of projection. In many instances part of the procedures were completed before or after the lesson and personnel could not be identified. For the 410 lessons observed, Residents noted the following:

Procedural Task	Completed by: Teacher	Student
Obtaining materials	48.4%	9.3%
Set-up Materials and Equipment	43.9	30.7
Operating equipment	56.3	37.6
Dismantling projection set-up	15.4	18.1
Return of materials	10.5	6.3

Were there technical problems which occurred?

Minor technical problems were noted in 19.6% of the lessons observed. In 17.6% of the lessons observed, the problems were corrected by the teacher or students within a few minutes. In the 2% of the lessons where corrections were not immediate, the failures were beyond control of the teacher, primarily in the electrical system of the school building.

Were the audiovisual media used in whole or in part?

Audiovisual media used in its entirety	79.8%
A selected portion of the media was used ...	14.6
Undetermined or Not Applicable	5.6

Were the audiovisual media used as an uninterrupted experience?

Audiovisual media were used "straight-through" without interruption 51.7% of the lessons observed. In 42.4% of the lessons observed, the media use did involve starting and stopping the projection involved.

What use was made of the media sound and what part did student and teacher narration play in the use of the media?

"Official" sound track was used in its entirety	68.8%
"Official" sound track was used only in part	1.5
"Official" sound track was not used at all	12.7

The narration of audiovisual media by teachers and students was noted as follows:

Narration by teacher alone	13.0%
Narration by student alone	9.8
Narration by teacher and students	4.6
No narration by teacher or students	72.6

General Classroom Activities Surrounding Media Use

Residents observing the classroom lessons were asked to make some general inferences regarding the characteristics and the content of the class activities before and after media use. The observation form contained a brief word or phrase which could be circled or checked by the observer. Instructions for use of the form provided the following information to clarify the intended meaning of the word or phrase. The same group of terms was used to describe pre- and post-media classroom activity.

Interaction: Whole OR Sml. Grp: Indicate whether the discussion involved the teacher and the whole class or whether the discussion was carried on in small individual groups under the teacher's supervision. The question to be answered is whether the whole class had the responsibility for discussion. The fact that one small group of students might have been assigned to some special project somewhere in the room does not negate the responsibility of most class members to participate in one discussion. The number of participating students is not relevent to this choice, if the responsibility was present.

Tchr-O OR Stdt-O: Indicate whether the discussion was teacher-oriented or whether the discussion was student-oriented. The discussion is teacher-oriented when the direction and control of the discussion is clearly and primarily through the teacher's remarks and actions. The discussion is student-oriented when the direction and control of the discussion is provided by the students for themselves. Teachers who are asking frequent questions which require direct responses create a "Tchr-O" situation even though the proportion of student "talking time" is very high. Teachers who organize groups and make it a group responsibility to develop specific answers to specific questions in a limited time framework create a "Tchr-O" situation. Class groups which take a general question from the teacher and begin sustained discussion with several students participating and with minimum and non-directive teacher comments are best described as a "Stdt-O" situation. When the teacher offers a general problem to organized small group activity and small group discussion proceeds in developing self-determined ends, the discussion is described as "Stdt-O.

Purpose: Prescr OR Alterna: Indicate the inferred purpose of the discussion. Circle "Prescr" if it seems the discussion is intended to develop specific thoughts or modes of action; the intent of the discussion is to develop, reveal, or practice the "one correct answer." Circle "Alterna" if it seems the discussion is intended to develop several alternative thoughts or modes of action; the intent of the discussion is to develop, reveal, or practice several possible responses from the group.

Questions: Converg OR Diverg: Indicate the general nature of most questions being asked by either students or the teacher. Circle "Converg" if the questions seem to require increasingly smaller responses or specific types of responses or specific types of responses. If the sequence of questions continually "zero in" on the point being discussed the question pattern should be described as convergent. Circle "Diverg" if the questions seem to require multiple examples or applications and varied responses. If the sequence of questions continually "expand" the topic or viewpoint being sought the question pattern should be described as divergent.

Content Summary: This is to indicate the presence in class discussion of a content summary of the media to be used. This refers to a brief description of a film, or filmstrip, or textbook, or whatever media is the key element of the lesson. One line introductions to media (e.g., "The film we are about to see is on polar bears.") should not be considered as a content summary. The general nature of the content plus some review of the sequence of ideas or a listing of the major concepts of the media item being used should be considered a content summary.

Vocabulary: This is to indicate the presence in class discussion of a selected vocabulary list which the media will either present or use. The number of words constituting such a list will vary with the grade level and the subject matter involved. If vocabulary has been a significant part of the pre-media discussion or activity, circle the appropriate form of vocabulary presentation in the column indicating the person responsible for presenting the vocabulary.

Key Points/Quest: This is to indicate the presence in the class discussion or activity of Key Points or questions related to the media used by the class. If several key points of content or several questions to be answered by the medium are raised before the group, then the appropriate column items should be circled. The Resident should make a judgment of the total situation in the light of comments made under "Content Summary" and "Vocabulary" in the paragraphs above.

Test Announced: This should indicate whether the teacher announced there would be a test on the content of the media to be used. The mere announcement of a quiz or test is sufficient to makr this. Whether the test will follow immediately upon the use of the media or whether the test will come at some later time is not significant.

The report of observations and judgments made for both pre- and post-media discussion situations follow:

Classroom Activity		Pre-Media	Post-Media
Interaction:	Whole Group	75.9%	84.7%
	Small Group	1.2	1.5
	Teacher Oriented	70.5	74.4
	Student Oriented	6.1	10.0
Purpose:	Prescriptive	68.5	71.4
	Alternatives	5.6	12.4
Questions:	Convergent	51.0	57.8
	Divergent	8.5	17.6

Classroom Activity		Pre-Media	Post-Media
Content Summary:	By Teacher	9.5%	18.8%
	By Students	.7	4.8
Vocabulary Noted:	By Teacher	14.6	14.7
	By Students	---	1.7
Key Points or Questions Discussed			
	By Teacher	37.1	45.9
	By Students	1.0	4.9
Test Announced		.9	.2

Student Assignments to Follow Media Lessons

Residents were asked to note any class assignments made by the teacher as a direct result of the lesson observed. It was indicated that there might be no assignment which carried beyond the observed lesson. It was anticipated that other instances would represent student obligations for some time in the future. Again, a series of key words or phrases were provided for the observer to circle or check on the form. The definitions provided for these key terms follow.

Teacher or Choice should be selected to indicate whether the teacher made the assignment or the student had a selection of more than one activity to complete the assignment. The only question to be answered here is whether the students did or did not have a choice in whatever assignments were made.

Media: Single or Varied refers to whether the assignment involved the use of films or filmstrips and whether there was one assignment made for all students or whether students had a choice of the medium to be used. The only instance requiring a check in this column would be when the teacher specifically requested some students to complete the assignment through the use of films or filmstrips. If all students were required to use the same film or filmstrip to complete the assignment, the Resident should mark the blank next to the word "Single." If students were requested to use films or filmstrips to complete the assignments and were given a choice of which films and filmstrips were to be used, the Resident should check the blank next to "Varied." Use of media to complete the assignment does not refer to the medium which was used with the class during this lesson. I.e., if the assignment is to write a report on the content of the film just shown to the class, do NOT check any blank on the "Media" line. "Media" in this instance refers to films or filmstrips which will be used after the lesson in completing some further assignment.

Reading: Single or Varied. If the students are assigned to read more or further in completing the assignment, check the appropriate space here to indicate if a single assignment was made for all students or if the students had a choice of reading materials which assists the assignment completion.

Writing: Single or Varied. If the students are assigned to write something specifically as part of an assignment check the appropriate blank as to single or varied (choice) assignment.

Project: Single or Varied. If the assignment involves some other activity than reading, writing, or using a film or filmstrip, use this line. Such activities as drawing, map making, model building, etc., which might be described by a teacher as a "project" can be indicated through this line.

The Observations reported by the Residents follow:

No assignment of any type noted....	61.7%
Teacher made assignment..........	36.3
Student choice of assignment.......	2.0

Assignment Types Noted included the following:

Media Use:	Single Assignment for All...2.2%;	Varied Choice for All...1.2%
Reading:	Single Assignment for All...6.1%;	Varied Choice for All...2.4%
Writing:	Single Assignment for All...8.5%;	Varied Choice for All...3.9%
Projects:	Single Assignment for All...2.4%;	Varied Choice for All...3.7%

Classifications of Lesson Types:

Residents were asked to classify the entire lesson at the completion of the lesson. (Subject matter types are indicated in the Appendix material on sampling characteristics of the observations.) The following suggested definitions were provided for classification purposes.

Introductory -- This is the first lesson in a unit which is new for this class. The subject matter and the topic itself may have been covered in prior grades, but this lesson represents the first time the topic or work has been started for this class. I.e., health habits regarding the teeth have been covered in grade two; the first lesson on dental care in the third grade classroom would be classified as an introductory lesson. Some persons may wish to describe these lessons as "motivational:; sometimes the lesson may appear to be students selecting a new direction for work. The basic criterion is that it represents the first formal classtime spent on this topic, in this grade for this class.

Developmental -- This is any class period which is devoted to exploring a topic for new information or skills or attitudes. The content or the experience should represent some progress over prior experiences. It may include what appears to be "drill" or "practice" activities, but it must end in a product that is beyond initial capabilities at the beginning of the lesson. The basic criterion is that the lesson time adds-to but does not complete student's knowledge or skill on the topic.

Review -- This is any class period which is devoted to a review or practice of part of any unit. It may be drill or review in the general sense. It should not represent a final summary, culmination, or closure of any unit of work.

Summary -- This is any lesson which represents the ending of any unit of work. It may take place on more than one day. The basic criterion is that the class time is spent in concluding some topic.

Enrichment -- This lesson represents an addition to the regular work of the classroom. It may be directly related to the topics which are being studied, but its function is above and beyond the regularly planned work of the class. The presence or absence of this lesson is insignificant, essentially, to the fundamental purposes of the classroom. Do not confuse this type of lesson with Developmental lessons, which are directly related and planned for as part of the ongoing program.

Make-up -- This lesson should represent work which had to be repeated because of prior failures in learning. Do not confuse this with Review lessons. The basic criterion is the absolute necessity to correct errors in work already covered and completed.

The results of this classification process follow.

Introductory	7%	Summary	1%
Developmental.....	58.8	Make-up.....	0.2
Review	11	Enrichment...	22

The Observer Congruency Scale

The Resident was asked to make a self-evaluation of his role in the observation situation. The scale was developed from an idea of Roger Barker, a psychologist who has used the participant-observer technique with great effect. The instructions for the Resident and the modified definitions developed from Mr. Barker's idea follow.

This scale asks the Resident to make a self-evaluation of his role in the observation situation. The scale runs from 1 to 6 and suggests the degree of involvement in the classroom situation. In general, numbers toward the center of the scale indicate the desirable relationship to the classroom situation. Low numbers indicate an "obvious" observer who is "intruding." High numbers indicate the "vanished" observer who is so involved in the classroom situation he has lost his capacity to observe.

The Resident should consider carefully the interaction between his presence and the students and teachers for the specific observation time. The question asks for a judgment only about the observation time. It is recognized that many circumstances not related to the Resident may create a need to characterize the "congruency" with high or low numbers. Teachers may "force" participation in the classroom activity by asking for the Resident's opinion or comment. Residents who are completely at home in the setting may be asked to conduct the class when a child is injured and the teacher wants to take the child to the School Nurses. The Resident who has been accepted in the past may enter a classroom at a time when the group is planning a surprise for someone else in the school; thus the Resident would create reactions that demanded a "1" on the scale.

1 = ONLOOKER: This number indicates the least involvement possible with the naturalistic setting. The ONLOOKER stands completely outside the environment and is thus usually obtrusive even though he remains passive. The ONLOOKER lacks any acceptance by the setting he observes.

2 = INVITED GUEST: The GUEST is one who has begun to merge with the setting. He is part of the group yet always as an outsider within that group. Those who are part of a group can always detect the GUEST; he is accepted but still seen as from another setting.

3 = MEMBER: This is probably the ideal relationship to one's setting if one is interested in observing. The member merges completely with his surroundings and is never obtrusive. He is in all respects inside the environment yet not acting as an obvious influence upon it. His stance is essentially a passive one.

4 = ACTIVE FUNCTIONARY: Here the observer is a member of the group but beginning to emerge by his activity within the group. His actions are part of the group behavior and in this sense change somewhat the setting of which he is a part.

5 = JOINT LEADER: As a LEADER the observer begins to move outside the setting and from this vantage point he works on and directly influences that setting. He is not yet in complete control, but he shares that control with one or two other members of the setting.

6= SINGLE LEADER: As the antithesis of the passive ONLOOKER who is outside the setting, the SINGLE LEADER is an active outsider who completely controls a setting. He is never part of the setting but one who manipulates the setting.

The summary of the Resident's self-evaluation for all the observations were as follows:

No judgment made	2.2%
Onlooker	11.2
Invited Guest	38.6
Member	38.9
Active Functionary	8.1
Joint Leader	.5
Single Leader	.5

Local Board of Education Meetings

Project Residents attended or secured official minutes of the Board of Education in each of the participating districts. Attention to the "Project Discovery" situation in the participating schools was virtually non-existent, except in Terrell, Texas. In Washington, D.C., the school board for the District of Columbia did not officially note the demonstration situation in any manner prior to the May meeting. At that meeting, a proposal was approved to extend the concept of "Project Discovery" to other schools in the Model Schools Division. Scott Montgomery Elementary School, the demonstration site, was part of the special inner-city organization known as the Model Schools Division.

In Shaker Heights, the only mention of the demonstration site was confined to brief printed notes of newspaper or magazine comment on the demonstration. At one meeting a newsletter prepared by teachers of the participating school and published by one of the participating commercial firms was distributed to board members.

In Daly City, no mention of the project was made at any of the official board meetings.

In Terrell, Texas, where the entire school system was involved in the demonstration, "Project Discovery" was mentioned at each of the seven meetings. Five times announcements were made of visitors who came to see the project. Four times news articles were noted. Twice donations of commercial firms were noted. Once an article for publication about the project was read for the board's information and comment.

Faculty Meetings

Project Residents attended all building Faculty meetings except in Terrell, Texas, where it was physically impossible for one Resident to attend all building meetings for all five schools. (The Terrell resident, Mr. Owens, did attend fifteen faculty meetings in all five schools as well as 18 district-wide faculty meetings. See special comments below.)

"Project Discovery" was mentioned or discussed in almost every faculty meeting at each of the buildings in Shaker Heights, Daly City, and Washington, D.C. At least two meetings in each building were almost totally concerned with the demonstration. Discussion or comment was in three major categories:

1. The research study occupied a substantial portion of at least two meetings when explanations or requests were given to the faculties by the Residents or visiting project staff members.

2. Procedural details were minor but frequent points of discussion. These included such matters as preparing for visitors, or public programs related to the project, clarifying procedures for handling materials, and establishing procedures for student and overnight use of materials.

3. Publicity or professional activities related to the demonstration activity were frequent topics. In each school, at least one meeting was devoted to the preparation of materials for a newsletter to be published and distributed to the demonstration schools by one of the participating commercial firms. Local or national newspaper and magazine accounts of the project were mentioned. School personnel appearing at professional association meetings or meetings arranged by the participating commercial firms reported on their presentations and impressions.

In Terrell, the entire district was involved in a curriculum revision at all grade levels. Monday afternoon meetings were held regularly for all elementary teachers. Professors Beatrice Murphy and Betty Johnson of East Texas State University served as resource leaders for these meetings. Meetings were generally in grade level groups with part of some meetings devoted to a meeting of the entire faculty. Because the focus of this curriculum effort was the integration of the Project Discovery materials with a curriculum outline developed the previous year, Project Discovery represented an ever-present factor. In these meetings, the discussion of visitors and procedural detail seen at the other sites was also present. The major time emphasis, for Project Discovery, was on the cooperative preview of materials by grade level groups.

For the Terrell individual school faculty meetings, the same discussion of procedure was noted but much less frequently, probably because of the availability of the curriculum meetings.

Community Reaction

In assessing community reaction, Residents collected school publications, monitored the area newspapers, followed the activities of the local Parent Teacher Associations, and recorded any comments of citizens made or reported to them.

Three sites (Shaker Heights, Daly City, and Washington, D.C.) were in large metropolitan communities dominated by the central city newspapers. The Shaker Heights project was mentioned twice in the local papers in four column inches of space. The Washington project was mentioned once in local papers in two inches of space. The Daly City project was not mentioned once in the local papers, even though school news was extensively covered in several suburban papers. In Terrell, Texas, located some 30 miles from Dallas, the local project was mentioned nineteen times in a total of 270 column inches of space; in addition, the Dallas newspapers printed two articles with a total of 20 inches of space and a four-page article in a Sunday supplement.

(It should be noted the Shaker Heights school had been in the project the previous year and each of the three sites had some local publicity in the previous year when the sites were officially selected by the commercial firms.)

Public school meetings devoted primarily to the project were scheduled at each of the three sites starting the project this year. The meeting in Terrell, Texas, included the dedication of a new high school building and featured Governor John Connally as speaker. Terrell Schools also held an Open House during the year which prominently featured the classroom use of the media. In Daly City, the evening meeting featured an annual awards program prominent in the school with some demonstration of the media following.

In the two sites where strong PTA programs existed, the project was noted in more than half the publications and more than half the meetings. In general, these were brief announcements or comments and did not represent the major content of the publications or meetings. In one school an appeal was made through the PTA for part-time assistance in the library-media area; more than 75 parents agreed to work two to four hours per week throughout the school year.

Three of the four Residents noted citizen comments made or reported to them. At two sites all comments were positive. At one site five minor complaints were noted, among "numerous positive comments." In one school representatives of the commercial firms happened to be visiting the school when an afternoon meeting of parents was occurring. Three of the parents were so enthusiastic they sought out the commercial representatives to directly praise the project. In another district, a parent complained to a principal when they met in a supermarket. It seemed the films and filmstrips must be incomplete; everytime her son had seen something at school he came home and had to find more information in the reference books at home.

(Beyond the immediate community, the project attracted the attention of four national publications. Generated in part by public relations efforts of one participating company and in part by local news stories, two of the sites were visited by representatives of three of the publications. Stories appeared in two national weeklies and one national daily publication.

(Faculty members from all four schools appeared at meetings of state and national professional groups to discuss some aspect of the project. Administrators or faculty members from three sites wrote articles for state or national professional association journals.)

Visitors

Residents were asked to obtain records of visitors at each site who were interested in the project. Each of the participating school districts had some other project or attraction which might draw visitors. Residents were dependent upon information acquired from district or building personnel or routine procedures which the school established to record such information. Rather complete records were obtained at Shaker Heights and Washington, D.C. These locations were the most accessible to the most persons because of geography and population concentrations. In addition, Shaker Heights had been in operation the longest and Washington was visited frequently by school personnel conducting other business with the federal government. In Terrell, the Resident was faced with monitoring five schools on a periodic basis. There is reason to believe visitors came to each school who remain unrecorded. The minimum available data is presented in Tables 7 and 8.

An analysis of other information about visitors reveal the following characteristics:

1. Half or more came from within the state or the immediate geographic area. Visitors from foreign countries were recorded at each site.

2. About half of all visitors were classroom teachers and approximately one-quarter were school administrators from building principals through media and library specialists to district superintendents.

3. Eighty-nine per cent of all recorded visits were in groups of four or less. Each school recorded one or more visits of a group larger than ten.

4. Most requests for permission to visit came by phone, even from distant persons. Fifteen per cent or more arrived at the school without advance notice.

5. Most visitors talked with the building principal and frequently were accompanied on a tour of the building by the principal.

Note: The influx of visitors was a concern to teachers in each of the districts as represented by comments made to the Residents. In one school, more than 60% of the teachers voiced some regrets about the demonstration aspects of the project. In two other schools, it is known that two teachers in each school have requested transfer to another building in the coming year; the expressed reason being a desire to avoid the demonstration aspects of the project. Other teachers welcome visitors at any time. Some expressed regret that visitors were not shown to the teacher's own classroom. Principals have expressed the opinion that the attention the schools are receiving is a stimulant to morale.

Table 7: Visits and Visitors at Each Site

	Shaker Heights		Washington		Terrell		Daly City	
Month	Visits	Visitors	Visits	Visitors	Visits	Visitors	Visits	Visitors
Sept.	7	13	2	2	NA		NA	NA
Oct.	8	33	1	1	0	(Five buildings involved. Not all visitors visited each building.)	NA	NA
Nov.	4	11	7	12	6		NA	NA
Dec.	1	1	8	14	3		NA	NA
Jan.	3	14	9	19	4		NA	NA
Feb.	9	22	9	19	3		8	7+?
March	5	10	12	32	2		10	31+?
April	7	8	2	3	4		4	12
May	4	22	NA	NA	3		9	13
Totals	48	134	50	102	25	101	31	63+?

NA: Not Available

Table 8: Visitors --- Frequency of Group Size

Group Size	Shaker Heights	Washington, D.C.	Terrell	Daly City
1	27	22	11	18
2	8	18	3	5
3	4	3	5	3
4	4	3	1	2
5	1	1	1	0
7	0	1	0	0
8	1	0	0	0
10	0	1	1	0
11	1	0	1	0
14	1	1	1	0
15	1	0	0	0
25	0	0	1	0
Unknown	0	0	0	3

Other Major School Activities

Residents were asked to identify other major continuing activities of a project nature at each school site. The purpose was to provide some descriptive base for additional pressures or constraints upon teachers' involvement with Project Discovery. In addition, Residents were asked to note any "intermix" which seemed to occur between the project and these activities.

Scott Montgomery Elementary School, Washington, D. C., had the largest number of continuing project activities: five. These included:

1. A special program in early reading instruction involving three classrooms at first and second grades; approximately two and one-half hours per day.

2. A language arts program emphasizing development of oral expression throughout grades kindergarten through third; approximately an hour and one-quarter each week.

3. A foreign language program in conversational French exclusively through an oral approach in grades three through six; approximately 20 minutes per day.

4. A pre-school Child-Parent orientation program for parents and four and five year children; a Saturday program involving primarily the regular school counselor.

5. An evening library program extending the use of the school library from 3:30 to 7:30 p.m. each weekday afternoon; this was an optional opportunity for any student or person in the local community. A librarian and two assistants served as the complete staff.

From observation and records of media use, the Resident believed the media project was not adversely affected by the presence of the other activities. In turn, the media project possibly made some positive contributions to the other projects by providing additional materials for use in the regularly planned programs.

Mercer Elementary School, Shaker Heights, Ohio, had four other major continuing activities throughout the year. These were:

1. The Greater Cleveland Math Program involving all teachers at all grade levels approximately 30 minutes per day.

2. Science instruction by television for two half-hours per week in grades two through six.

3. Reading instruction by the Initial Teaching Alphabet method in four classes of kindergarten through second grade.

4. A district program using a biographical approach to social studies in all fifth grade classes.

From observation and records of media use, the Resident believed the media project was perhaps affected by the television science program which caused some teachers to limit the use of science films and filmstrips because of total time available for science instruction. Because of the special mathematics program, the school decided not to order any mathematics films and filmstrips. (Only eight films and twenty-seven filmstrips were available in mathematics at the time of media selection.) Again, curriculum time limitations would have possibly restricted teacher use. All fifth grade teachers did use the biographical films pertinent to the curriculum; this was a small part of their total use of available social science media. The ITA reading program used media on occasions as basic experience for writing exercises.

In Terrell, Texas, the one major district wide activity was the curriculum revision meetings described elsewhere in the report. This activity unquestionably influenced the media project since it involved continuing preview of media and the incorporation of media recommendations in the curriculum outlines as they were prepared. Another dominant feature of the community school life was the completion of a new high school building. This followed closely the completion of a new elementary building. Both buildings represented unusual architecture since they were "windowless". The new and unusual character of the buildings when combined with the extensive media program probably provided some extra interest and attention from visitors.

The Thomas Edison School, Daly City, California, had two additional projects involving teachers across all grade levels. One project was funded by state money and one by federal money; both started in the latter half of the school year. One involved in-service training of teachers in specific areas of social studies. One involved a study of selected characteristics of children and instruction patterns. Neither are viewed as affecting or being affected by the media project.

COSTS OF THE PROJECT

As possible, costs of the project were determined for the participating commercial firms and for the individual school districts. It is known there are undetermined costs for both commercial firms and school districts.

The method of determining the costs for commercial firms was an examination of complete company files on "Project Discovery" at the Chicago offices of Bell and Howell Co. and the Wilmette, Illinois, offices of Encyclopedia Britannica Films Incorporated. These firms, as the initial developers of the project, served as primary liason with the more than a dozen other commercial audio-visual organizations which contributed materials or supplies. A member of the research study staff visited the offices and had carte blanche access to the files. (We were permitted to copy any item in the file and no restrictions were asked or made as to our treatment of the information.) The research staff has confidence in the information as minimal. There are recorded costs which are below known inventories at the school sites. There are known costs of outside suppliers which were not specified in company documents. Shipping charges are not included in these costs, although almost all shipping costs were paid by the participating firms. No charges have been included for personnel time or travel for company representatives during the development of the project, the inservice training sessions provided at each school, or travel funds provided to staff members of the participating schools during the development phase of the project. More than 80% of the costs have been provided by Bell and Howell and Encyclopedia Britannica Films. However, other film companies did contribute selected materials. Several other firms wrote to one or both of the major firms and volunteered supplies or equipment which might be needed. Some suppliers asked to help, shipped supplies or materials at their own cost, and never requested recognition from either the cooperating firms or the schools.

Although the major costs are in the films, filmstrips, and projectors of both types, these costs also include items such as filmstrip cartridges, film racks, extension cords, screens, drapes, headphones, dust covers, extra lens, and extra film reels. Not included are charges for repairs and services to the equipment nor cost of projection lamps. The costs of equipment and repair services were absorbed by the Bell and Howell Co. and their franchised representatives in the immediate vicinity of the specific sites. Projection lamps were provided by at least two major lamp manufacturers.

The identifiable costs for each site on February 1, 1966 were:

Shaker Heights, Ohio	$ 109,104.72
Washington, D. C.	95,210.25
Daly City, California	110,930.25
Terrell, Texas (5 bldgs.)	328,445.15
Total...........	$ 643,690.37

Variations per site primarily reflect difference in number of teachers requiring projectors as well as variable costs of different materials selected by each site.

During April and May of the school year, the Residents attempted to determine all costs to the local school. This information was obtained primarily by interview with school personnel although some school records verified some dollar costs for incidentals, expendables or plant modification. The costs cover preparation time for the project, including summer work by clerical staff processing materials for the media library. All personnel time, dollar costs, and space allocation were indicated as directly connected with the implementation of this project. Not included, although it was related to this project, were the space and equipment (desk, chair, file cabinet) provided to each

Table 9: Estimated Costs of Project Development and One Year of Operation

	Shaker Heights	Washington D.C.	Daly City	Terrell (5 Bldgs.)
Professional Time (Man-Days)				
Principals or Teachers (Non-classroom Time)	8 1/4	11 1/2	64 1/4	NA
Principal or Teachers (Meetings away from local district)	15	9 1/2	12	18 1/2
Library or Media Specialists (Project Preparation and/or Direct Supervision)	52 1/2	42 1/2	90	90
Additional Personnel (Man-Days)				
Secretarial-Clerical	201 1/4	12 1/2	74	225
Custodians, Electricians, Carpenters	16 3/4	18 1/2	15	NA
Space Allocations (New) (Sq.ft.)	500	890	80	3555
Dollar Costs				
Plant Modification, Incidentals, Expendables	$4,087.90	$628.00	$2589.50	$7,772.40

Residents of the research staff; these costs have been eliminated as not being indicative of costs to be anticipated by any district duplicating the project.

It is the opinion of the research group that additional costs are present which could not be identified. Included in these items would be additional insurance, electricity increases, and minor supply items. Known "gifts" of time by school personnel and school parents, plus gifts of material or supplies existed at all sites. In one case, the building Principal, a few teachers, and the Project Resident not only hung some darkening drapes but built partitions for an improved school library; the cost of the partitions was a gift of the PTA. (See Table 9 for summary of estimated costs to the school districts.)

"Informal Interviews" of All Building Personnel

Project Residents were asked to maintain a continuous file of notes regarding incidental conversations with all members of the building staff. In the Spring, Residents also systematically sought an informal conversation with each building employee to determine workload and general reactions to the project. The personnel involved in these reports included some of all the following positions: regular teachers who were not panel members for the regular interviews, substitute teachers, secretarial and clerical, custodial and maintenance, bus drivers, special teachers or consultants or supervisors who visited the building on a regular schedule. The number of persons varied for each building because of the size of the district and personnel policies within the district; at least five non-teaching personnel were involved at each site. The summary of impressions for various groups were as follows:

Regular Teachers: This group exibited the same range of reactions evident in other data and to be expected in any population. Some were highly involved and enthusiastic about the project. Others were neither "hot" nor "cold" for the project, voicing objections to excessive excitement or rejecting the available opportunities. Still others were anxious about the project throughout the entire year; several voicing strong concerns about visitors and a few teachers who avoided all contact with the Resident and never showed signs of recognition that anything special was happening. Staff communications "breakdowns" were evident in all schools. E.g.: some teachers expressed concern that more exchange of project information wasn't occurring; Some teachers would refuse to make comments to the Principal; Some teachers expressed the opinion they were just beginning to "understand" the project between January and March. Yet, the overwhelming reaction was positive toward the project and considerable pleasure and pride in what was occurring to the children, themselves, and the school.

Substitute and Special Teachers: Substitute teachers because of their generally erratic schedules did not become aware of the media or procedures for obtaining them. A few substitutes who appeared frequently in the same building, though for different teachers, did become aware and use the materials. The effectiveness of regular teachers communicating appropriate information, under emergency conditions of absence, is not known.

Several special teachers in three of the four districts quickly became aware of the materials. In one of the three districts, the special teachers delayed use until the appropriate occasion arose to discuss it with other teachers or the principal. Once assured of their freedom to use the materials, all special teachers did so. At least five of these teachers began to use materials on a systematic base and reported great pleasure with the success they felt they achieved. Two of these teachers began working closely with the classroom teacher in planning joint use of materials in a mutually supporting "curriculum."

Non-classroom personnel: Secretarial and clerical employees reported some work involvement with the project, particularly at the beginning stages. Almost all personnel reported increasing efficiency in incorporating any continuing duties into their schedules. Five employees in three districts reported workloads dropping twenty-five per cent or more within the first six months. Bus drivers reported no particular involvement; some seemed almost totally lacking in knowledge of the project. Custodians and maintenance personnel reported performing minor continuing duties with the project. These were primarily personal conveniences (such as carrying a projector to a car)they normally performed for teachers as a matter of courtesy. The impression was the service would never have been mentioned if it involved books or parcels rather than projection equipment or media containers. Members of both secretarial and custodial groups reported seeing films occasionally; some of these groups arranged to take equipment and materials home on weekends for the educational assistance of their children or relatives as well as general information or entertainment for their families. In one building, custodians regularly spent lunch hours for some weeks viewing films. In two districts secretaries and custodians expressed a wish their own children could attend such a school because of the advantages of such resources.

The only negative aspects present in any of the comments from any of the schools were (1) the "silence or avoidance" of some regular classroom teachers, and (2) expressed fears of some custodians over permitting students to take projection equipment home. The consistent general reaction was one of positive support, interest, pleasure and pride in the presence of the project.

INTERVIEWS WITH PRINCIPALS

Residents were asked to interview each building Principal three times during the year. Each interview featured some common questions as well as new questions. As the situations evolved, some principals felt unable to respond to some questions. Frequently the single interview was conducted over a series of three meetings because of interruptions which demanded the principal's immediate attention. Responses given below each question represent the total content summary of the responses received; each response represents the comment of one or more principals. Responses include those of the two high school principals in Terrell, Texas. The Third Interview does not include responses from the Principal at Daly City.

First Administrative Interview: This schedule of questions was asked during the period of November 1 through 11, 1965.

1. How did you first hear about your school becoming involved in Project Discovery?

First heard in January, 1964, from director of elementary education.

In a letter from program director of school division sent to all principals.

From superintendent of school district.

At a state conference.

a. What were your initial reactions? Have they since changed? Why?

Initially delighted. Now more enthused.

At first enthused. Now more so.

Wonderful, an excellent opportunity to eliminate some problems in the school as far as use of films is concerned and a good opportunity to do what we want in classroom. No change in this reaction.

Better than I anticipated.

b. How did teachers react? Have they changed since? Why?

Enthusiastic reaction. Too good to be true.

Strong acceptance.

Great opportunity.

c. How did you work with faculty to prepare for Project Discovery?

EBF and B&H held a workshop during school time. Mothers took over classrooms.

Curriculum programs begun.

Demonstrations for teachers by professors and experienced teachers. Mothers watched classrooms.

II. What factors do you as a principal look at in judging Project Discovery?

Is it giving a better education--more effective learning. Are we getting knowledge to children in the most accurate and rapid manner? Is it making them look for knowledge in depth--in better ways. Is it making them independent?

Improved reading.

Student interest and attitude toward school. Lack of discipline problems. Parental reactions. Drop outs.

Does it overcome deficit of poor background?

Number of films used; remarks of faculty and students.

a. Is Project Discovery going the way you expected?

No unexpected events.

Mostly as expected but it takes less time than thought.

Lack of darkening materials is a problem.

Too early to tell.

Did not know what to expect but set up guidelines which have been fulfilled. Good teachers have found new and creative ways of using films and filmstrips.

b. Are there any unusual occurrences in your mind of things that went better than expected?

Helps students with emotional problems.

Helps reading problems.

Meets needs of individual learning patterns.

Thought there would be more damage.

Operation of projector is better than expected.

c. Overall reaction of faculty? Of students?

Creative teacher is interested; others are not enthused.

Becoming part of teacher and student routine.

Students are better behaved in classroom.

Faculty is negative to meetings related to project.

Students 100% in favor.

d. Were there any reactions to the delay in being able to use the Project Discovery materials?

(Note: Shaker Heights experienced no delays since the project was operating the previous year.)

No lessening of enthusiasm when reason given.

Delay dampened enthusiasm.

Teachers and principal frustrated by delays.

e. Have there been any complaints about Project Discovery?

Teachers tired of visitors.

Resentment on selection of teacher-representatives to travel to conventions, etc.

Librarians reluctant because of increased work load.

Teachers fear research and visitation.

Lack of time to do work films require.

III. What are the most important educational goals of your school?

To develop each child to his potential--he should be happy, successful, develop the necessary self-discipline. Child should be self-sustaining. He should be allowed to pursue his interests.

Give student basics of 3R's.

Uplift them culturally.

Give children opportunity.

Give children experiences.

Have student achieve more. Better knowledge of subject matter.

Teach students first, subjects, second.

Give values, desire for learning and reasons for it.

Develop students speech-attitudes and personality.

a. Do you feel Project Discovery will be especially helpful in accomplishing these goals?

Student attitudes toward learning are improved.

Films are sometimes more effective than teachers.

Makes it easier to teach.

Provides student with wider experiences.

Helps especially in modern math.

Reading is improved by filmstrips.

Helps motivate children to stay in school and gives more time to do some things in basic subjects.

b. Is Project Discovery changing these goals?

Not yet.

No.

May change them later.

IV. How was the decision made regarding the location of the films and filmstrips?

Principal and superintendent decided together.

Superintendent decided.

Principal consulted then superintendent decides.

Principal decided.

a. What is school policy regarding use of Project Discovery materials by teachers, by students? Who decided? Has there been any change?

Students must have permission of parents, teacher and be tested on use of equipment before taking it home.

A-V Faculty Committee formulated policy rules for teacher use (3 day use period, checking out procedures). No rules for student use.

V. Further comments.

Films fail to help with problem of overloaded classes.

Teachers need more demonstrations in techniques of [illegible] using film.

Hope films will help solve discipline problems.

Second Administrative Interview: This schedule of questions was asked during the period of February 1 through 15, 1966.

I. How do you feel Project Discovery has developed since our last interview?

Has developed very well; teachers are beginning to live with Project Discovery and make it part of their regular routine.

Very well. Teachers are more enthusiastic.

Pretty well. Teachers and students are less enthused than earlier. Films seem to be used less often.

Enthusiasm of elementary students is greater than that of high school students for visual aids.

All comments of teachers are favorable, even older teachers are gradually using films. Don't hear much from parents or community.

Third grade teachers were slow to use materials--too elementary for their students.

Curtains not installed until February was a problem.

Student training program for operators is helping [illegible] teachers.

Teachers becoming more informed about material available and uses of films.

a. Have there been comments about Project Discovery from teachers? Students? Parents? Others?

Many favorable comments from parents about taking [illegible] films and projectors home.

None.

Not much comment from parents or community. They did not understand project at first.

Many favorable teacher comments.

Student comments are enthusiastic.

Teacher comments are especially favorable about filmstrips.

Weaker teachers use films more.

Parents requested night program so they could see some of the films.

Some teachers questioned idea of using films more than once.

b. As a result of Project Discovery is teacher morale higher or lower? Why?

Higher because of wealth of materials; status as teachers had grown because of attention given them; professional interest in teaching has increased.

No effect on morale.

Teacher morale increases because films enable them to keep young students attention more easily.

Better applicants now coming to school system.

Curriculum changes are frustrating teachers.

c. Has teacher workload changed because of Project Discovery? Has Project Discovery made teaching easier? How?

Workload increased from planning standpoint but there is a time release when film is being shown.

Class control and interest is better.

Teachers have time to ovserve student reactions.

Workload is heavier because of curriculum guides.

Initial work required to integrate film with subject matter makes planning more extensive.

Workload is the same for those who did serious planning previously.

Workload increases because teachers want to do more, they are more enthused.

The ends of teaching are more easily met with the use of audio-visual materials.

d. What effects do your teacher's feel it has on the students? Have you noticed any other effects?

Teachers feel that teaching is more effective: vocabulary has improved; children acquire and retain more facts, concepts, skills, etc.

Helps to hold students in school.

Eliminates a great deal of boredom.

Learning occurs without oppression or coercion.

Films more effective than reading for "slow-learners."

Some students check films out on own.

There is more student interest and better control.

e. Are there any particular groups of students you feel have been especially affected by Project Discovery? What about culturally deprived?

The better students benefit most since they are most observant.

Culturally deprived benefit most since they lack any travel experience; they receive twice as much information.

Slow students who have difficulty in reading benefit most from the films.

Culturally deprived benefit little because no teaching can overcome deficit of home environment.

Language instruction has especially improved.

Culturally deprived advance in the same proportion that gifted students advance.

Junior primary students benefit most; they are much more ready for the first grade.

Upper elementary (4,5,6) benefit a great deal regardless of ability to read--especially in social studies area.

Emotional children less intense with films.

f. How do you manage to keep informed about Project Discovery?

Talk with children often and parents.

Talking with Project Resident

Talking with teachers.

Talking with librarian.

Visiting classrooms.

Reading and editing newsletter materials.

Working with teachers who are preparing for conferences.

Contact with teachers and students.

Questioning students.

Faculty meetings.

From my own son.

II. What were your reactions to the films and filmstrips you were able to personally use?

Excellent as teaching materials.

Very good but several are outdated.

"The Cattleman", "The Hummingbird", "Royal Canadian Mounted Police", "The Fur Trapper of the North" are especially good.

None used.

Only viewed the film about the project.

Personally viewed none but took home for a daughter to view when she was ill.

III. Have you had an opportunity to observe teachers or students using films?

Visited biology and civics classes.

Yes in social studies class.

Yes.

Saw one film.

Viewed a few showings by way of informal observation.

a. Were there any films that seemed especially useful? Which ones? Why?

"The Norseman," "Life Story of a Snake" photography was excellent. Interesting presentation.

Filmstrip on mathematical sets held student attention better. Well illustrated.

Saw a good filmstrip on travel. Science films in chemistry and biology are effective.

Film on city traffic for third grade was interesting to students. Sixth graders were interested in film on importing and exporting. Second graders read filmstrip captions well.

b. Were there any that seemed less useful?

Unable to judge.

"Beowulf"--more comical than helpful.

No, but there is a need for current events films.

Teachers reported film on "Abraham Lincoln" unsuitable.

c. Are you able to visit the classroom as often as you like?

No, would prefer to visit classes one day per week.

No, because of time pressures and lack of administrative help.

No, would prefer to spend 1 hour per day.

Yes, but reactions of teachers are mixed.

d. Have you noticed any change in the way teachers use films? What? Do you recommend certain methods to teachers? Which?

Teachers are more confident because of simplicity of projector operation. Suggested to teacher that films were not entertainment and should be correlated with subject areas.

No.

Teachers seem better prepared now. Recommended science series booklet.

Teachers and students are involved in films and filmstrips, not just passively viewing--a real learning situation.

e. Do you recommend particular films or filmstrips to teachers or students? If yes, what were some of them? Why recommended? How did you learn about them?

Do not recommend films or filmstrips to teachers.

Yes, look over library of films and filmstrips and suggested specific films to teachers in music, history, and chemistry.

Yes, one seen personally.

f. Do teachers have an opportunity to preview films during the day?

First and Second grade teachers do, others do so at home.

Most prefer previewing at night but all have a free period daily.

No provision made for previewing during the day. Many teachers make their opportunities.

No--wish more would preview at home. Group previewing would be helpful.

Most teachers previewed their films last year.

g. Do you encourage teachers to exchange comments on particular films or methods of using films?

Teachers exchange on their own.

Nothing done specifically. First grade teachers meet for one hour to plan a week's lesson.

Informally encouraged.

Yes, at faculty meetings and in lounge.

h. Do the teachers have an opportunity to observe other teachers using films in class?

They don't do it.

No visiting occurs for exchange of ideas on teaching.

It is done informally.

Done occasionally.

Don't know if it's being done.

i. Have you talked with many people outside the school about Project Discovery? Parents? Visitors? Local Citizens? Representatives of the companies? How much time per week spent in this activity?

No.

A few community leaders. A few parents. Very little time.

20% of time spent in showing people the school and project.

Talked to "millions of people"--spent about two hours per day.

Spend one and two hours per week.

IV. Have you had any conversations with teachers about Project Discovery?

Yes.

Yes, trouble with operating projectors.

No.

a. Have they requested any help? What type?

Generally teachers request help with the machines.

Some teachers have been requesting some "experts" in to talk to them about techniques and ways of using materials.

Teachers have remarked about need for materials on intermediate level.

Teachers in business and math have asked for additional filmstrips.

b. Have they requested any additional Audio-Visual equipment or materials? If so, what? Did they receive them?

Received requests for overhead projectors, opaque projectors, and several tape recorders, record players. More requests this year than ever before.

No, but I asked for a tape recorder and four or five phonographs.

Math filmstrips requested.

Three controlled readers requested.

Request for additional prints of seasonal materials from teachers.

One or two requests for record players.

Request for overhead projector for math teachers.

V. From your experience as a Principal, what questions would you be interested in if you were a visitor to a Project Discovery school?

Check materials and equipment to see if it was really there.

Visit classrooms to see use of materials and student reaction.

Colleagues ask about reaction of students, parents, community.

Would like to question parents.

What effect on learning has Project Discovery caused--rely on teacher opinion. Would want to talk to teachers personally, also students and librarian.

Check library procedure for withdrawing films.

Check relation of films and filmstrips to other materials (text, etc.)

Is maximum availability worth it?

Were films of educational value?

Did films increase teacher workload?

Third Administrative Interview: This schedule of questions was asked during the period of April 25 through May 6, 1966.

I. How do you feel Project Discovery has gone since last interview?

Has taken me away from office and school more than I would have wished.

Improving humanities, literature, and history.

Picking up at First grade level where initially weak.

Increase in student use. Now have 110 student projectionist.

a. Have there been any comments about Project Discovery from teachers? Student? Parents? Others? Any groups of students especially affected by Project Discovery?

Many are overly enthusiastic.

Have received many requests for visits from other principals and teachers.

Parents concerned that school be able to keep materials at end of project.

Students praised quality of the humanities films.

No.

b. Have you noticed any changes over the year in the way teachers relate to films? Any change in students?

Teachers have discovered more places in school program to use large numbers of the media integrated into units as the carriers of instruction.

Vocabulary increase on various grade levels.

Some students reading better from the media.

Better students are going ahead to learn from the media on their own because media are easier to learn from than books.

Teachers feel that it is how a film is used not how many are used that count.

Teachers are depending more and more on films to develop concepts--they are more confident with films.

c. Were there any expectations you have had of Project Discovery that have not taken place?

Wished more would have been done with acquainting parents with Project Discovery and taking projectors home.

Thought some testing could be done on learning by films but now I don't think we have a test that would test learning from films.

More improvement in teacher planning needs to take place yet.

Went further than ever thought.

d. What effects have visitors had on your teachers? on you? on students?

Required sacrifice of other administrative duties and time but enjoyed.

Teachers enjoyed attention and have increased professional enthusiasm.

Students have become more receptive to strangers.

Visitors brought new ideas.

Visitors have created a real improvement in staff.

Students have gained in the ability to speak before groups.

Little effect. Thought the visitors would make suggestions for improvement.

e. What aspects of Project Discovery have you liked? Why?

The educational possibilities inherent in the Project because of the motivation the media supply.

The attention brought to the school.

Stimulation in other areas--library, new books, etc.

Availability--open shelf system for easy check-out by teachers and students.

Quality machines; students operating projectors.

Motivation to think and read more.

f. What aspects have you disliked? Why?

The green-eyed jealousy of those who do not have the project--colleagues.

Unanticipated visitors. It means time away from duties with little tangible benefit to school.

Too much emphasis on Project Discovery at beginning of year by school administrators.

Lack of response from some teachers in training student projectionists.

Poor planning by some teachers.

g. As you look back over the year, what would you do differently? Why?

Arrange for more in-service work in the selection of media and its integration into curriculum.

Allow machinery and materials to go home sooner.

More communication with staff about Project.

More inter-staff sharing of techniques should be organized.

Improve regular library facilities.

Get darkening material before school year begins.

Make more classroom visitation.

h. What advice would you give to a principal planning to statt a project like Project Discovery?

Don't allow high initial expenses to deter you from free circulation of materials.

Don't allow control and record keeping to prevent free circulation.

Make certain staff want the project.

Involve the community in the project.

Hire a full-time media specialist who would know content of film library.

Initiate project slowly.

Have films easily accessible to students.

i. What are your personal reactions to Project Discovery in terms of the costs in time, money, and personnel? (The Principal's were shown the summary of costs prepared by the Resident. These costs are provided elsewhere in this report.)

Universal agreement on educational worth in spite of any costs.

II. Has Project Discovery helped you to accomplish your major educational goals?

Project Discovery has stimulated reading for acquisition of information, has provided skills for information getting from a new educational tool, and has stimulated more creative writing by providing experiences.

Less discipline problems.

Absolutely.

Student's individual use is helping develop their abilities and interests.

a. Has Project Discovery changed your goals?

No.

It has helped them.

THE TEACHER INTERVIEWS

A panel of teachers were selected to represent the various grade levels in each of the districts. (Further procedural details are provided in Appendix A.) These teachers were interviewed once each month. Two interview instruments were used on alternate months; e.g. Interview I was given in November, January and March while Interview II was given in December, February and April. Teachers gave generously of their limited time. While attempts were made to confine the interview to one-half hour, teachers frequently voluntarily gave more time; on other occasions, the pressures of the day and schedule meant the minimum time and attention was available.

Not all teachers were able to or would respond to every question. Sometimes a negative response to a major beginning question would automatically eliminate a teacher's response to all the following probes or sub-questions.

Data was reduced by converting each teacher's response to each individual question or probe in the interview to a simgle card. All cards for each administration of each interview in each school were combined. Thus there were twelve summaries (three administrations for four districts) of responses to each item in the interview. The final summary report which follows indicates pertinent variations across districts as well as variations over time in the administration of the interview.

Responses to Interview Schedule I

I. Primary Question: Generally speaking, how has the use of films and filmstrips been working for you?

Probe Questions: a. Can you get the materials you want?

b. Can you get them when you need them?

c. Do the machines work satisfactorily for you?

d. Are your room conditions--light control, ventilation, screen, etc. --satisfactory?

e. Are there aspects of the situation you wish were different? What are they?

f. What circumstances of this situation would you think most teachers would appreciate?

To the primary question, a pattern of responses was evident across all districts. In the first administration, responses from all three schools represented almost an even division in thirds: one group being very positive, one group being restrained and one group being slightly negative. Reactions ranged from "Fair"--"Pretty slow"--"Not very well" to "Very Well" --"Wonderful"--"Great! I'm thrilled." At the second administration, reactions were more positive and more specific. Only two schools reported about one-third of the teachers giving a "Fair" rating; all others were positive. Individual teachers reported specific instances of teaching units or subject matter areas which had been substantially aided by the media. Teachers in two schools reported their only dis-satisfaction was lack of materials in a specific area or a desire for more materials. By the third administration, the teachers were uniformly reporting general success and satisfaction. Half the teachers in one school could still provide specific instances of very satisfactory use. One teacher in another school reported: "Beautifully. It is more organized." She could also now coordinate materials for units better.

In response to the question about getting materials wanted, responses again were consistent across schools. Through all three administrations of the interview in all schools from one-third to one-half the teachers reported difficulties in acquiring the materials they wanted. In three schools the explanation seemed to be desires for very specific materials; e.g. state or local history, a specific activity such as basket weaving with reeds. In all schools some problems in terms of conflicting teacher needs at the same time were reported during every administration. One teacher noted the need for special materials at a holiday season. In one school, in February, three teachers reported, "No. Not recently." Another teacher in the same school said, "It has been better lately."

In response to the question about obtaining the materials at the time desired, the pattern of responses followed those of the previous question. From one-third to one half of the teachers in any district reported problems at every administration of the interview. Specific cases of excess demand could be cited in several cases, although these varied from district to district and interview to interview. Teachers mentioned preparing alternate media lists for such emergencies, going to other teachers to borrow the materials, and rearranging their schedules. One teacher commented that Mondays presented the greatest problem: When there were media that could not be obtained, it meant "the whole pattern of getting the week rolling is thrown off."

In response to the question regarding the operation of the equipment, patterns were fairly consistent across schools and across the three administrations of the interview. On the first administration, one or two complaints were reported in two schools. On the second administration, the same pattern appeared. On the third administration, three schools reported one or two problems. In almost half these reports, the projectors were retained by the teachers rather than sending them for repair or replacement. The problems reported most frequently were a "hum" or a "noisy" machine. Teachers in two schools mentioned no problems but said. "Wait until the machines go home!" Four reports of damage following student or at-home use were made during the interviews. All other teachers expressed satisfactory experience with the equipment. Two schools reported no problems with the equipment during the second and third administrations of the interview; in one of these schools two teachers mentioned the success of student projectionists.

In regard to satisfactory room conditions, responses were generally consistent for individual schools across time. In two schools half or more of the teachers interviewed consistently (on three administrations of the interview) complained about room darkening conditions; by the February interview teachers in both schools were reporting the use of media only during selected times of the day when sufficient darkening could be achieved. In a third school, five out of eight teachers had some complaint at the November interview; for the following two interviews not one complaint was reported. In the fourth school about one third of the teachers had minor complaints during each interview; these consistently involved ventilation problems when the darkening drapes were closed and the poor location of screens.

In regard to the question of situational aspects which might be different, responses were individual and varied throughout all schools and all administrations. More than half the teachers had some suggestion for improvement at every interview in every school. Some of these comments directly related to inadequate room conditions mentioned above. In one school complaints about meetings were mentioned by one or more teachers at the first two administrations. In another school one or more teachers complained about too many visitors during the second and third administrations of the interview. The need for more preview time was mentioned in all schools at one time or another. The need for more materials or specific materials was mentioned in three schools at one time or another. One teacher during the second interview said the interviews were an imposition; at another school one teacher said filling out the media cards was a problem; at a third school one teacher said filling out evaluation cards was a problem. In three schools, at different times, one or more teachers mentioned the need for simple lists of the available media, especially filmstrips. At two schools, teachers reported a need for a full-time professional assistant in the media library to help with selection of media and general advice. At the same two schools, other teachers said the size (both space and quantity of materials) should be expanded.

When asked what aspects of the situation other teachers and schools would most appreciate, some common and consistent responses appeared but a change also occurred. In every school at every administration, teachers mentioned the word "availability" meaning the easy and immediate access to the media. Only one or two teachers in two of the districts mentioned possible contributions to learning at the first interview. By the second interview the number of comments regarding instructional advantages increased at all schools. By the third administration, instructional advantages were the dominant response at all schools. The amount of resources and the enrichment this provided for the curriculum was a major theme. The second theme was the ease of learning for children, with specific comments on "motivation," "variety," and a "comprehensive" experience. Three districts produced comments on the various "side advantages" of the project mentioning improved room conditions, in-service training, access to additional personnel, the improved integration of the curriculum, the greater opportunity to share with fellow teachers, and the attention and prestige of such a project.

II. Primary Question: (Since our last meeting) have you used any films which stand out in your mind? (Note: Get list of outstanding films from teacher before concentrating on probe questions concerning a single outstanding film or filmstrip.)

Probe Questions:

a. How did you learn about this material? (Additional probes: from other teachers? fron grade level chairman? from curriculum supervisor? from principal? from AV specialist?

b. How did you use it?

c. Why do you feel it was especially useful to you?

d. Do you expect to use it again? When? With what group? In what way?

e. Did you tell anyone else about it? (Additional probes: see probe question (a) above.)

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c. Why do you feel it was especially useful to you?

d. Do you expect to use it again? When? With what group? In what way?

e. Did you tell anyone else about it? (Additional probes: see probe question (a) above.)

In response to the first general question, eighty per cent or more of all teachers interviewed at all schools on all administrations provided specific titles of some film which they had used. All teachers had some successful experience with films but some did not refer to one specific film.

In regard to their source of information about the film, a pattern appeared across schools and administrations. At the beginning of the year, half or more of the teachers reported using the film guides provided by the producers of the films. By the third interview, only two of the schools reported the film guides as a primary source. By the second and third interviews more teachers were mentioning use of local school lists or preview or comments of other teachers. (Mercer School at Shaker Heights and the Terrell schools had had extensive experience with the materials the previous year. These schools frequently mentioned this prior experience as a source of film knowledge.) In all schools one teacher would occasionally mention "browsing" in the media library. It was rare to find a teacher who reported multiple techniques for learning about films and individual patterns of learning about films was generally consistent for the year.

In response to the question about method of use of the film, teachers could respond primarily in two ways. They could talk about purpose or procedural technique. Almost all teachers at all interviews chose to respond in terms of a very brief statement of purpose. At the second interview in two schools, half the teachers did respond in terms of procedural technique. In one school all the teachers discussing procedures mentioned starting and stopping the film frequently during classroom use. In the other school, the teachers mentioned integration with other curriculum materials. Other isolated instances of procedure appeared at all schools with reports of "projects," the start-stop technique, and unit teaching. In one of the schools, direct imparting of information was reported by some teachers at each of the three interviews. In two of the schools, on the third interview (March), information was reported as the primary purpose by more than half the teachers. Purposes given at other times varied with individual teachers; there were no consistent patterns for schools. The most frequently mentioned purposes were discussion, enrichment, and motivation. Others were introduction, review, and "reinforcement."

In response to the question about the reasons for its value, responses were varied and individual. Only one district consistently showed numerous responses mentioning the "information" in the film; teachers at all other schools mentioned this on every interview. Teachers frequently mentioned "good summary," "simple explanation," "good organization." .In one school about one-fourth the teachers consistently mentioned the film experience as being "otherwise unobtainable." Other random comments were vicarious experience, variety of presentation, and visualization. Teachers frequently said, "The children can see it."

In response to the question regarding using the material again, the pattern was consistent in all schools across all administrations. Every response but one was to re-use the same material. Half or more would use it next year under the same circumstances, with some possible adjustments to the nature of the group. Other respondents reported using the film again this year with the same group for review, recall, reinforcement.

In response to the question about reporting the "good film" to others, the pattern was consistent. One-third to one-half the teachers reported they did not tell anyone else about the film. One teacher said, "No. This is an exclusive." Two other teachers said the other teachers in the same grade "all use it." One said, "Most others have already used it." One said, "I wish more people would share" their knowledge of films. For those teachers who did discuss the "good film" with other teachers, a pattern was evident. Comments were made exclusively to other teachers in the same grade or to teachers whose classroom was nearby. As one said, "Oh, yes. We advertise to the neighborhood." Only one teacher reported discussing a film with teachers outside the immediate school.

III. Primary Question: Since our last meeting, have you used any filmstrips which stand out in your mind? (Note: Get list of outstanding filmstrips from teacher before concentrating on probe questions concerning a single outstanding film or filmstrip.)

Probe Question:

a. How did you learn about this material? (Additional probes: from other teachers? from grade level chairman? from curriculum supervisor? from principal? from AV specialist?

b. How did you use it?

c. Why do you feel it was especially useful to you?

d. Do you expect to use it again? When? With what group? In what way?

e. Did you tell anyone else about it? (Additional probes: see probe question (a) above.)

A difference appeared in the overall responses to the questions about filmstrips. Only two sites consistently reported much information related to filmstrips. (It is known that one school used relatively few filmstrips in comparison with others. However, the fourth district reported some of the highest filmstrip uses.)

For the responses made, selected materials were dominant in each of the three districts. Responses from two of the districts was strongly concentrated at the kindergarten through second grade. In the third district, responses were heavily weighted by comments on language arts materials. By the third interview half or more of the teachers in all schools could not cite a single filmstrip title for this question. As one of the teachers said, I can't remember a title, "see how much more oriented to films than filmstrips I am."

Responses to gaining knowledge of the material reflected the same techniques as reported for films.

Responses to purposes or techniques of use were directly related to the nature of the filmstrip content. The kindergarten-second grade use was primarily in story filmstrips (fables, classic children's stories, and modern children's stories.) The major purposes were to stimulate discussion and develop oral expression. Occasionally, use of the material as a basis for writing or art experiences was mentioned. The language arts materials were used primarily for conveying information and drill and practice.

Responses to the values were directly related to purposes. Successful stimulation of oral expression and discussion was mentioned frequently. Several teachers commented on the materials as opportunities for slow readers to practice successfully.

In terms of using the materials again, responses were consistently positive with the kindergarten-second grade teachers reporting successive uses immediately ("the next day," "the next week").

The few teachers reporting these specific and successful uses reported the same pattern of discussion with other teachers as was reported for films. Half or more did not discuss the use with other teachers. Those who did report the "good filmstrip" most frequently talked with those on the same grade level or to those teachers whose classroom was nearby.

IV. Primary Question: Since our last meeting, have you used any films which were not as useful as you had hoped? (Note: get list of films before concentrating on a single one for probe questions.)

Probe Questions:

a. How did you learn about this material? (Use same probes as in II a.)

b. In what ways were these materials not as satisfactory as you had hoped?

c. How did you use it?

d. Would you use this material again? For what purpose? With what group? How would you change the way you used it?

In response to the general question, from one-fourth to one-half the teachers consistently could name a film which had provided a less than satisfactory experience. The number of teachers diminished with each interview, but some teachers reported unsatisfactory experiences everytime except once. One school on the second interview in January did not report a single film.

The sources of information about these films was reported as the same range of sources for any film. The film guides, preview, and other teachers were mentioned.

Responses to the question about the reason for dissatisfaction revealed a common problem and several minor individual problems. The major problem was a film that did not match the ability levels of the students. The major factor, present in all schools at every interview, was the film that was "too advanced" for the students; the corollary of the film "too immature" for the students was also mentioned in every school but not on every administration and not in the amount as the "advanced" film.

Other expressions of dis-satisfaction were occasional and varied, e.g. poor opening, "sad ending," too general, "dull" and uninteresting to the students, culturally irrelevant.

Responses to the nature of use revealed no single pattern, but an underlying indecisiveness of purpose. Occasionally, a teacher would specify information, follow-up, or reinforcement as when stating purposes for other media use. However, several unusual situations were noted, e.g.: It was a "fill-in" for an emergency; It was a student report; It was for demonstration purposes; Visitors were coming and going frequently in the classroom; It was a "teachable moment" where the first available material was used; It was for "discussion." Several teachers mentioned that the conditions of the event did not permit preview; although, many others had previewed the film which produced the unsatisfactory situation. (Some teachers in reporting they had no unsatisfactory experiences said, "Preview prevents it.")

In response to re-use or future use of the medium, about half the responding teachers indicated they would use the material again, But at the next use, it would be for different purposes or with different techniques or at a different time. One teacher in each of two schools indicated the medium was the best or the only thing available for that particular curriculum topic.

V. Primary Question: Since our last meeting, have you used any filmstrips which were not as useful as you had hoped? (Note: get list of filmstrips before concentrating on a single one for probe questions.)

Probe Questions:

a. How did you learn about this material?

b. In what ways were these materials not as satisfactory as you had hoped?

c. How did you use it?

d. Would you use this material again? For what purpose? With what group? How would you change the way you used it?

In response to the primary question regarding unsatisfactory uses of filmstrips, from one teacher to one-half the interviewed teachers cited unfavorable experiences in each school at each interview. (It should be recalled that filmstrip use in general was only half that of films and that one district reported an average teacher use of filmstrips of less than one per month.)

The sources of information on the filmstrips cited were the same sources indicated for all types of films and filmstrips.

In response to the question of the problem that seemed to be present, three general reactions were given. Respondents were almost equally divided among too little information, too advanced for the students, and a failure to "hold the class's attention."

In response to the question of how the media was used, the concentration of filmstrip use at the kindergarten-second grade levels (for purposes of reading experiences and provoking discussion) was evident.

In response to the question of using the materials again, responses were rather evenly divided between yes and no. Those teachers indicating another use of the material reported they would use it differently or there were no other alternatives available.

VI. Primary Question: Have you noticed any particular student reations to these materials?

Probe Questions:

a. What was (were) the general reation(s) of most students--that you have noticed? To what do you attribute this reaction (these reactions)?

b. Have there been any special student requests or questions that these materials seem to have triggered? What are they? To what do you attribute these requests or questions?

c. Have the students in general reacted any differently to these materials than they have to other classroom materials (textbooks, workbooks, maps, feltboards)? How would you describe this difference? To what do you attribute this difference?

In response to the question regarding students' general reaction, reports were consistently positive but varied and multiple. During the first two administrations of the questionnaire, one or two teachers in each district reported that no particular reactions of students could be noted. During the third administration, only two schools had teachers reporting a lack of student reaction; in one of these schools, the teacher's added "the idea of entertainment" is still present.

The most common comment of teachers was about students' "enthusiasm," "excitement," and "enjoyment." Other than those teachers reporting no notable student reaction or the two teachers reporting films were still entertainment, the most negative comment receiving was, "Some are bored, but most are enthusiastic."

No school exhibited a unique pattern of individual teacher responses. Every school had many and individual comments. The second most common comment was the influence the media had upon student's oral expression. This came as "better discussion," "vocabulary increase," "oral reading improved." Two other common comments were about slow students using filmstrips for good reading experiences and the stimulation the media provided for other follow-up activities for individual students.

Other comments included improved discipline, more voluntary sharing of experiences by students, better attention, improved critical abilities with details of the media, interest in the projection equipment, and stimulation to watch related television programs.

When queried about requests students made or questions asked in connection with media use, responses were in a relatively consistent pattern across schools and across administrations of the interview. Those teachers who indicated no particular student reactions were notable also indicated no requests or questions. For those who indicated any of the numerous positive reactions of students, the students' requests and questions fell into three major categories in descending amounts: (a.) Students wanted to see more media, (b.) students wanted access to the media for information, class reports, or follow-up activities, personal interest, and (c.) students wanted more information, or discussion on the subject matter of some media seen by the class.

Responses to the question of unique student reactions to films or filmstrips as opposed to other media were varied. Excitement, interest, and pleasure were common comments; "They love media," as one teacher said, A few teachers in each district continued to report no special reaction. "They take it for granted;" "They take it as a matter of fact;" "They remember the same amount from an interesting film or book" were typical comments from these teachers.

The most common and prevalent specific response was the influence of the media upon slow readers, particularly the use of filmstrips as a successful reading experience. Teachers in two schools consistently commented on the students in the lower grades "applauding" at them of the film or filmstrip used in class. Teachers in one school consistently commented on the relationship to students' reading habits; the comments suggested students were reading more non-fiction and more materials directly connected to curriculum topics.

Other individual teacher comments included: "complete attention", more information--bigger--than a book and better than a teacher could do, stimulation to reading, creative writing improved, not as bored as with regular classwork, and that student hobbies or interests were supported by the media.

Responses to Interview Schedule II

Primary Question I: What ways of using these materials have you found so far?

Probe Questions:

a. What ways of using these materials have you found especially satisfactory? Why do you think these ways have been so satisfactory?

b. Have you tried some things you won't try again? What are they? Why wouldn't you try this idea again?

c. How have you generally selected these materials for use? Did you use any special criteria to select the materials you have used this past month?

d. Do you recognize any goals and/or objectives (either personal or grade-level) that you feel are being better realized through the use of these materials?

In responding to part a, the responses were numerous and varied for each administration and in each school. No particular patterns were dominant for specifically satisfactory uses. Teachers tended to respond with one of three types of content: purpose, method, or curriculum change. The "purpose" type of response is represented by words such as: introduction, motivation, reinforcement, review. The "method" type of response is represented by words such as: discussion, student narration, independent study. The "curriculum" type of response is represented by words such as: correlation of materials, vocabulary development, creative writing, oral expression, science. Very few teachers commented upon the possible reasons for the satisfaction they attributed to the media use. The few comments made were related to the vicarious experience the media represented, the novelty of the experience, the comprehensiveness of the media content, or the attention-demanding quality of the media.

In response to part b, regarding the unsatisfactory experiences recalled, half or less of all teachers interviewed mentioned specific instances. In one of twelve (four schools time three administrations of the interview) situations no problems were reported; in three out of twelve situations only one teacher could recall some difficulties.

No patter appeared for single administrations of the interview or for any single school. There was, however, several common experiences across all schools and all interviews. The most common unsatisfactory experience came from using a film which has not been previewed. Other teachers mentioned difficulties from "not preparing the class before the showing" or from permitting students to select and show media without adequate supervision. This whole problem area of inadequate preparation before use was reported one or more times in ten of the twelve school reports.

The second greatest problem area appeared to be some special technique which the teacher found unsatisfactory in the particular instance. E.g.: "One teachable moment that probably won't happen again;" Student narration never works; Student note taking or question-answering during showing of media destroyed continuity or retention of content. Two other problem areas mentioned by a few teachers related to unconscious overload of students, i.e., either the content was "over the head" of the students or the teacher had scheduled several films on one day.

In response to part c, most teachers interpreted the question to mean techniques of locating the media; no criteria for selecting were reported. Most teachers cited finding media through the film guides, card catalog, and friends as reported on Interview Schedule I. One school made frequent references to the district curriculum guide. One school frequently referred to "units" to be taught. A few teachers cited student interests and requests.

In response to part d, no specific school or individual interview pattern was evident. Responses tended to group around six topics. About one teacher in six mentioned a contribution to Language arts areas such as reading, oral expression, vocabulary, or creative writing. An equal number mentioned the general increase in information provided by the media. Two teachers said the media had "become" the science curriculum. About ten percent of the teachers mentioned the contributions of media to independent study. Slightly lesser numbers mentioned the "vicarious experience" feature of the media and the contributions to observation skills of students or to the social or group standards of students. On two occasions one teacher mentioned the media had contributed nothing in particular. One teacher on one occasion mentioned the contributions to her personal fund of information.

Primary Question II: Has the use of these materials made any difference in planning your lessons?

Probe Questions: a. What is this difference? To what do you attribute this difference? (Note optional probe questions: 1) Has the amount of time spent in preparation for classes changed since the media have been installed? 2) Has the time previously spent on other activities changed? 3) How much time did it require for you to learn to use the projectors? 4) About how much time per month do you spend previewing films?)

b. Does the use of these materials seem to take more or less time than before? In what ways?

c. Do you find you can preview the materials as often as you would like? How do you do this?

d. Do you feel you are using more or less materials of other types? About how many more or less? How are you using them? Why did you select these?

In response to the opening question, teachers at all schools and on all administrations replied yes the media had made a difference in their planning. Only three teachers reported no difference in planning on the first and second administrations of the interview. On the third interview one teacher said it took less time to plan.

Only three interviewers asked teachers to specifically identify the differences. For the differences mentioned by teachers there was a general change over the course of the three interviews. In the first interview, teachers primarily reported a generalized "more time" with the media. This seemed to relate primarily to preview time or a recognition that more media-based lessons were being taught that in prior years. In the second interview, teachers noted their greater dependence on the media and the fact that the media seemed to be making at least some teaching units longer or more involved. A few teachers mentioned the media as becoming the "core" of selected subject matter topics. By the third interview, teachers were reporting media as being more comprehensive, extending and expanding teaching units. From all three interviews an occasional teacher would mention reduced class time on seatwork or text reading; these activities apparently became home assignments. One teacher reported the media supported the texts well; another teacher reported the media made her less dependent on the text and gave greater flexibility to her teaching.

In response to a1, regarding preparation time, only one school on the first interview reported universal agreement that lesson preparation time had increased. For every other school on the first interview and for all schools on each succeeding interview, approximately one-third of the teachers reported no increase in lesson planning time. In one school the remainder of the teachers consistently reported more planning time with estimates ranging from 20 minutes per media lesson to 45 minutes per week.

In the other three districts, teachers would split almost evenly between more time and less time. Those mentioning more time would indicate preview requirements plus additional efforts for media lessons specifically. Those teachers reporting less time indicated that media oriented lessons enabled them to save time on other kinds of preparation (e.g. student seat-work, project motivation) or that the media lesson became the basis for a longer sequence of lessons (i.e. long planning with media became planning for several lessons rather than just one). At least two teachers mentioned the long-range planning which became possible with available resources enabled the teacher to do a better job with short-range immediate planning problems.

In response to a2, responses at Shaker Heights differed from all other schools. On all three interviews teachers primarily reported no change in other activities. Shaker Heights was in the second year of Project Discovery and changes in other activity would probably have occurred in the initial year.

In one of the schools one third to one-half the teachers consistently reported no change in other activities, although the number diminished with each succeeding interview. One district consistently reported activities which had been dropped; these activities included notebooks, workbooks, scrapbooks, charts, displays, and handwork. This same school reported less lecture, less art, and more social studies, more science, and better subject matter integration. The impression conveyed is that teachers were glad to be rid of several "busy work" activities now that more content and materials were available.

Two of the schools reported a wide variety of individual reactions. Many of the activities that were dropped reflected the changes indicated above, i.e. seat-work, artwork, committee activity. One of these schools consistently reported more independent study and more discussion time in class along with longer lessons or units devoted to a single topic. A few teachers reported less "paper grading;" the loss was apparently individual seat-work in the lower grades and the increase was apparently study sheets related to media lessons in the upper grades.

In response to a3, regarding learning time for equipment operation, the question became irrelevant after the first interview except for an occasional opportunity to question a substitute teacher or a replacement for a regular teacher. Responses ranged from 11 teachers who reported "no time at all" or "a few minutes" to one teacher who reported it took one or two months "to feel comfortable" in class use of the equipment. Only four teachers reported needing time beyond the initial one-day workshops condjcted for all teachers in all schools. Of these four one reported personal difficulties because whe was left-handed.

Question part a4, related to estimated time required for previewing materials. Although teachers at Shaker Heights and in Terrell schools had extensive previewing experience the prior year, patterns of time requirements reported by teachers were comparable in those schools. Several teachers at Shaker Heights did indicate the preview was more for personal interest and information than actual class preparation time, although "personal previews" were occasionally found applicable to class use later. On each interview at Terrell, one or more teachers indicated the preview load was reduced by the preview experience of the previous year and the then current work in the curriculum groups.

Only one of the schools showed a marked and consistent increase in the amount of preview time reported on each succeeding interview. One or more teachers at each school and on each interview reported being unable to estimate the preview time spent because previewing was done in "bunches" or "batches", i.e. a teacher would preview many films and filmstrips at one time for future work in a number of subjects and for a long time-span. Three teachers reported previewing "two weekends per month;" two reported previewing an average of twenty hours per month.

One teacher reported only two hours per month, while another reported "eight nights" per month. Specific time estimates were made about 50% of the time the question was asked. The range in reported time was from two to twenty hours per month. Most teachers reported eight to ten hours per month for preview time.

In response to part b, schools exibited particular patterns throughout the interview series. One school generally reported less time because the "media do more," meaning the high information content covered more subject matter. One school generally reported an inability to estimate time differences. One school consistently reported the media took more time but teachers felt it was resulting in a "better use" of the time spent.

More than one-third of the responses indicated it took more time. More than one-third of the responses indicated it took less time. Slightly more than ten percent reported it took the same time. The chief reasons given for more time were preview and planning time, teaching units which ran longer than usual, and discussion that was "longer but livelier." The chief reasons given for less time were ease of projector operation, information content of media, and one who said the addition of drapes meant "field trips" to other rooms were no longer necessary.

In response to part c, related to preview time, fairly consistent patterns emerged. At the first interview, about two-thirds of the teachers reported too little preview time. During the second and third interviews about half the teachers reported too little preview time. About 60% of the teachers consistently reported previewing at school, before or after class and even during lunch hours and recess. About 40% reported previewing at home, primarily on the weekends. About 20% of the teachers mentioned the weight of the projector when reporting the difficulties of previewing at home. One teacher in one school consistently reported she didn't or seldomed previewed materials. For one school, about 70% of the teachers consistently reported too little preview time at school.

In response to part d, regarding the use of other media, the pattern was rather consistent. About one-third of the teachers reported using less materials; the materials no longer used were personal study print collections, picture files, charts, and similar room display materials. About one-fourth of the teachers consistently reported using about the same amounts of all other materials as they had before the media collection was available. Teachers who reported using more materials increased in number with each interview until about one-third were reporting more materials in use; these were primarily books with occasional references to art prints or materials students brought from home.

Primary Question III: Are there any areas in which these materials have added to your information or knowledge?

Probe Questions:

a. What are these areas? (personal, curricular, methodological)

b. What kind(s) of knowledge have they contributed?

c. Are there any particular curriculum areas you feel are being affected by the availability of these materials? What areas are they? How have they been affected? Why do you think they have been affected this way?

d. Do you think these materials help more with facts, or vocabulary, or attitudes, or skills? In what ways? What do you think the materials help you do best? Why?

In response to the opening general question about the contribution of these materials to the teachers' personal knowledge, the answer was consistent and universal. Except for one teacher on the first interview, every teacher on all interviews in all schools responded that the materials had contributed to personal information or knowledge.

In response to parts a and b, almost all teachers mentioned contributions to knowledge of the curriculum. Knowledge of methods was mentioned only three times in all interviews. Reports of contributions to personal information dropped from the first to the last interview, from about 25% to less than 10%. The subject matter areas specified were almost exclusively science and social studies, with occasional references to art and language arts. Several teachers would resist naming a subject matter and report contributions to the "whole curriculum." Again, one teacher in one school on the first interview reported no contributions of any type.

In response to part c, regarding specific changes in the curriculum, the pattern of the prior question was reinforced. The subject mentioned in all schools on all interviews were consistently science and social studies, in that order. Art and language arts were mentioned frequently in all schools. In the first interview one or more teachers in three schools mentioned "no change" in the curriculum. One of these teachers retained this position throughout the interviews. On the first interview the teacher reported being surprised at the question and that the media were used because they were good and fit the general curriculum but "I wouldn't try to change the curriculum myself, that would not be ethical." On subsequent interviews it was reported "the curriculum is cut anddried" and the teacher had to teach "what they tell us."

Meanwhile the teachers reporting changes were indicating the changes in science and social studies were being made because the media provided (a) more materials than were otherwise available, and (b) materials which helped students see the curriculum "as life, not facts in a textbook." Apparently almost all teachers felt a dearth of science materials, even after several years of NDEA legislation. The "life-like" quality of films was especially noted in social studies, with several teachers indicating films as a good substitute for "field trips" to both local sites and foreign locales. Several teachers noted that new curriculum units had been added because of the availability of materials, e.g. "fish", "space travel", "personal living." Several teachers suggested the presence of so much additional material made it possible to give greater "depth: and more "integration or correlation" to standard curriculum areas. Some teachers indicated the media had enabled them to stimulate independent study and student projects in a new and more successful way. In only three instances did a teacher report "less" of the previous curriculum;

two teachers mentioned less art and more science and social studies while one teacher mentioned less textbook reading in class.

Responses for part d were divided for analysis into several discrete parts. Teachers found it difficult to attribute specific qualities of assistance from the media. When faced with a choice of effects upon facts, vocabulary, attitude, or skill, many teachers said the media contributed to all and hesitated to select one area as being influenced strongly by the media. However, when pressed teachers would mention one item first or would rank them in relative orders. When the total responses are analyzed in this fashion, a pattern does appear. Almost all teachers felt the media contributed much in the way of "facts", although this was occasionally qualified as "concepts." Second was the effect upon vocabulary; about half the teachers felt the media contributed substantially or primarily to vocabulary. About one-fourth of the teachers felt the media contributed to attitudes or skill development. These proportions remained relatively constant for all schools and over all administrations. It was rare for a teacher not to cite facts and vocabulary as being influenced by the media. About one-half of the teachers never cited attitudes or skills. The only specific element cited was the frequent mention of listening-observation-discussion skills; almost all teachers noting skill development cited one or more of these related elements as being the particular skill influenced.

For the portion of part d which inquired about the one thing the materials helped teachers do best, responses followed a dual pattern. Teachers responded by either naming a subject matter area or by briefly describing a generalized effect. In two schools the mention of subject matter was prominent, especially on the last interview. As might be anticipated from prior responses in the interview, the subject matters most frequently mentioned were science and social studies, with infrequent reference to art and language arts. Responses related to general effects were predominantly around three types of media contribution: 1. Facts, information, or concepts contained in the media; 2. Motivation, interest, stimulation of the visual media as opposed to print media or conventional school materials; 3. The correlation, integration or organization which the media helped to achieve for one or more curriculum areas.

THE TEACHER OPINIONNAIRE

In September, 1965 and again in May, 1966, a Teacher Opinionnaire was completed by the professional staff of the six elementary school buildings participating in the study. The primary purpose was to determine selected professional opinions and to determine any opinion change which might result from the project.

The directions provided and a sample of the form is given below. The same form was used in September and May; results of the September survey were not disclosed and no prior indication was given of intention to repeat the survey.

> Directions: We are interested in your professional judgment, The statements are intended to represent opinions, rather than facts. Please respond to the statements with your opinion as a teacher. You may respond to the statements in the following ways:
>
> Place a check (✓) in column 1 if you strongly agree
> Place a check (✓) in column 2 if you moderately agree
> Place a check (✓) in column 3 if you mildly agree
> Place a check (✓) in column 4 if you mildly disagree
> Place a check (✓) in column 5 if you moderately disagree
> Place a check (✓) in column 6 if you strongly disagree

	1	2	3	4	5	6
1. Films and filmstrips on the whole seem to be an asset to education.						
2. Films and filmstrips do not suitably provide for the special needs of bright students.						

The result of these combined surveys is divided into three parts:

1. Statements on which there was universal agreement in all schools on both surveys, indicating strong opinions and representing no change.

2. Statements on which there was definite "agreement" or "disagreement" on both surveys, indicating consistency of opinion with minor variations of strength or change in one or more buildings. Each of these statements is accompanied by a classification of the trend in the variation from September to May.

3. Statements on which the opinions varied widely or inconsistently.

Universal Unchanged Judgments

For the following statements, the mean response for all schools on both administrations of the survey was "strongly agree." The numbers preceeding the statements indicate the position of the question in each survey.

1. Films and filmstrips on the whole seen to be an asset to education.

6. Films and filmstrips are helpful in pointing up significant points in a unit of work.

7. Films and filmstrips are helpful in raising the vocabulary level of students.

21. If you want to focus the class on particular aspects of a topic, films and filmstrips are quite useful.

23. Films provide a better description of other countries than do textbooks.

30. The use of films stimulates the exploration of individual interests.

34. Films and filmstrips stimulate class discussions.

47. By previewing films, teachers also learn more about the subjects they teach.

53. Films lead students to new interests.

54. With films and filmstrips, teachers can provide the students with a common background of experiences.

For the following statements, the mean response for all schools on both administrations of the survey was "moderately disagree."

2. Films and filmstrips do not suitable provide for the special needs of bright students.

20. Extensive use of films and filmstrips degrades the teacher's role to taking care of paper work.

For the following statements, the mean responses for all schools on both administrations of the survey were distributed ten at "strongly agree" and two at "moderately agree".

16. The extensive planning and preparation in producing a film gives the children an unusual opportunity to see the overall structure and organization of a topic.

28. Students retain information longer when it has been presented by means of films and filmstrips.

33. The use of films and filmstrips is a major advance in providing for the individual learning needs of students.

44. The material in most instructional films is accurate.

48. The material in films lends itself to group activities which follow a film.

52. With the use of films and filmstrips even my restless students become attentive.

For the following statements, the mean responses of all schools on both administrations of the survey were distributed ten at "moderately disagree" and two at "strongly disagree."

13. Films and filmstrips are usually not as useful in the higher grades as they are in the primary grades.

55. Students tend to become more restless than usual when viewing films and filmstrips.

Consistent but Moderating Judgments

The mean responses to the following statements were consistently "positive" (always in the three ranks indicating agreement) or "negative" (always in the three ranks indicating disagreement). Following each statement is a word enclosed in parentheses which indicates the trend of the judgment from the first to the second administration. Three categories of trend are indicated: Stable, meaning no significant shift in the total means; More, indicating a shift in the means toward strong agreement or strong disagreement; Less, indicating a shift in the means toward mild agreement or mild disagreement.

The statements for which consistent agreement was noted are:

14. Pictorial materials, such as films and filmstrips, are particularly suited to slow learners. (Less)

25. Students take more responsibility for individual projects when they are using films and filmstrips. (Less)

37. Children seem to do more independent study when films and filmstrips are available to them. (Less)

38. The full benefits of films and filmstrips cannot be ascertained until we learn more about what they can do uniquely. (Less)

40. Films stimulate students to read more. (Stable)

46. Films lead students to a greater use of library materials. (Stable)

50. Lack of imagination on the part of many teachers limits the classroom use of films and filmstrips. (Less)

56. There are few limitations on the ways in which films and filmstrips can be used. (Less)

The statements for which consistent disagreement was noted was:

4. Films and filmstrips give little opportunity to provide for the individual differences of children (Stable)

8. Books generally provide a faster way to obtain information than do films and filmstrips. (Less)

9. Generally, it is difficult to integrate films with specific lessons. (Less)

15. Films and filmstrips are so specific as to have little adaptability to different teaching requirements. (Stable)

22. Films often tend to stress unimportant facts. (More)

35. Students read less when they can view films and filmstrips. (Less)

36. Films and filmstrips make it so easy to teach facts that teachers tend to overlook such things as concept development when they use films. (More)

45. When the newness of using films and filmstrips wears off, the chances are that they will be less effective. (More)

Varied Judgments

For the following statements, variations in judgments were reflected by the inconsistent means among schools or from September to May for the same school. Each statement is followed by a further analysis of responses indicating percentage of "positive" or "negative" responses and noting the number of schools making a shift in total response. "Positive" indicates the percentage of all teachers responding to any of the three categories of agreement; "negative" indicates the percentage of all teachers responding to any of the three categories of disagreement.

3. Most films are produced for older students.

From September to May, the positive response moved from 31% to 37.3%. Two schools moved from moderately disagree to mildly agree.

5. The problems of arranging a room to show a film or filmstrip more than counteract the educational value of the media.

From September to May, the negative response moved from 76.9% to 82.4%. Two schools moderated their disagreement and one school increased its disagreement.

10. The "authoritative" presentations of most films and filmstrips tend to produce an uncritical acceptance on the part of most students.

From September to May, positive responses moved from 58.2% to 57%. Three schools moved to mildly agree; only one school increased its agreement.

11. Films and filmstrips are paced so fast that it is difficult for students to remember all that they see and hear.

From September to May, negative responses moved from 72.2% to 69.1%. Two schools increased their disagreement; one school moderated its disagreement. One school consistently strongly disagreed.

12. Except for science and social science films, the subject matter range of films is quite limited.

From September to May, the positive responses moved from 35.7% to 54.2%. Disagreement increased in two schools; agreement increased in one school. One school consistently disagreed strongly.

17. Films do not satisfactorily anticipate problem areas that might confuse children.

From September to May, the negative responses moved from 65% to 62%. Two schools exchanged positions from agreement to disagreement. The means for schools were consistently for mild agreement or mild disagreement in the center of the choice range.

18. The films and filmstrips provides the teacher with more time to work with individual students.

From September to May, the negative responses moved from 51.7% to 54.9%. Two schools moved to more agreement while one school moved from mild agreement to mild disagreement.

19. In general my teaching load is lessened by the use of films and filmstrips.

From September to May, the negative responses moved from 57.7% to 68.4%. Two schools moved from moderate disagreement to mild disagreement. Four of the schools remained constant; one for each area of moderate agreement, mild agreement, mild disagreement, and moderate disagreement.

24. Students tend to become passive when films and filmstrips are used.

From September to May, negative responses moved from 82.2% to 82.4%. Three schools were in constant moderate disagreement. One school moved from moderate disagreement to mild disagreement. One school moved from mild disagreement to mild agreement.

26. Students see films and filmstrips as entertainment rather than instruction.

From September to May, negative responses moved from 68.9% to 83.1%. Four schools moderated the degree of disagreement.

27. Films and filmstrips primarily present facts.

From September to May, positive responses moved from 60.3% to 57%. Two schools moderated their agreement; one school moderated its disagreement. Two schools consistently recorded moderately agree.

29. Children tend to respond to the unimportant details in films and filmstrips.

> From September to May, negative responses moved from 74.9% to 77.5%. One school moved from moderate disagreement to mild disagreement.

31. Students generally cannot remember questions that come to mind as they view when they have to wait until after the film is over to ask the questions.

> From September to May, negative responses moved from 47.7% to 58.5%. One school represented the major shift from agreement to disagreement.

32. Films are often effective because they are a novelty.

> From September to May, negative responses moved from 57% to 58.5%. All schools means were consistently located at the central point of mild agreement or mild disagreement.

39. When the characters in films wear outdated clothing, the students tend to think that the ideas in the film are also *outdated*.

> From September to May, negative responses moved from 46.4% to 51.4%. One school each showed consistently moderately agree, mildly agree, and moderately disagree. Three schools moderated judgments toward the center.

41. There is an ample supply of films for most subject areas.

> From September to May, the negative responses moved from 52.3% to 51.4%. Three schools remained constant, with means consistently at each of moderately agree, mildly agree, and moderately disagree. Three schools moderated toward the center.

42. It is hard to find films on current issues and topics.

> From September to May, the positive responses moved from 57.6% to 56.3%. Four schools were consistantly

at mildly agree. One moved from moderate to strong agreement; one moved from moderate to mild agreement.

43. Many instructional films and filmstrips are outdated in content.

From September to May, the negative responses moved from 40% to 57%. Five out of six buildings changed from means from positive to negative.

49. Films and filmstrips are useful as an introduction to a unit, but the real work of teaching and learning takes place with conventional methods.

From September to May, the negative responses moved from 52.3% to 56.3%. Three schools moved from positive to negative. One school moved from mild to moderate agreement. One each held constant at mild agreement and mild disagreement.

51. The amount of time required to preview films seriously interfers with the other work of a teacher.

From September to May, the negative responses moved from 54.1% to 51.4%. One school moved from mild to strong agreement. One school moved from mild disagreement to mild agreement. Two schools moved from mild agreement to mild disagreement.

57. Students rarely use both filmstrips and books when preparing reports for class.

From September to May, the negative responses moved from 66.2% to 75.3%. However, five out of six schools reduced the degree of their disagreement with the statement.

THE PROFESSIONAL DESCRIPTION OF THE PROJECT

In May 1966, faculty members of participating schools were asked to complete the survey form which follows. The figures given in the space reserved for the teachers' individual response are the percentage of teachers who checked that statement. The population for the survey was 135 classroom teachers in the six elementary school buildings participating in the project.

Professional Description of Project

Below are a number of questions which seek to obtain your summary views of the project after the past year's experience. Each of the questions is followed by a series of varied responses. In general the first few responses listed may represent your total answer to the question. However, please read all responses and check all which represent statements you would want to report to other teachers.

I. How do you generally select the films and filmstrips which you use? Check all those statements that apply.

- a. By title from a list of films and filmstrips 75%
- b. From review of the Film Guides from the company ... 82%
- c. From the library card catalogue 38%
- d. By asking the Film Center Librarian 25%
- e. By talking with other teachers 76%
- f. By talking with the Project Resident 07%
- g. By previewing the materials 94%
- h. From previous experience of seeing the material 67%
- i. Other:______________________________ 08%

II. How would you describe the availability of films and filmstrips? Please check all the statements that apply.

- a. Films and filmstrips I want are immediately available 70%
- b. Films and filmstrips are frequently missing without a record of where they are 18%

c. I sometimes have to wait a few days for the films and filmstrips I want.............................. 48%

d. I frequently have to share films and filmstrips with other teachers in order to use them when I need them. 48%

e. I frequently have to reschedule lessons because other teachers are at the same place in the curriculum and they are using the materials I want 44%

III. (Part 1) How would you describe the film library which is available to you in this project? Please circle all responses that apply to films.

FILMS

a. The materials available generally meet my needs... Yes No
90% 10%

b. There is a scarcity of materials in a subject area which is very important to me .... Yes No
54% 32%

c. The materials are generally too difficult for my students .... Yes No
7% 84%

d. The materials are generally too elementary for my students .... Yes No
2% 88%

e. The materials present too much information too rapidly for my students........................ Yes No
23% 67%

f. The materials present too little material in a repetitious or redundant fashion .... Yes No
6% 81%

g. The materials are out-of-date in terms of the photographic style, clothes, houses, etc........ Yes No
11% 73%

h. The materials frequently are inaccurate or
incomplete in terms of information presented ..... Yes No
1% 88%

i. The materials are too lengthy .... Yes No
8% 80%

j. The materials are poorly organized .... Yes No
4% 84%

k. The students cannot identify with the persons
shown in most materials .... Yes No
14% 74%

l. There are too few materials in color .... Yes No
15% 73%

III. (Part 2) How would you describe the filmstrip library which is available to you in this project? Please circle all responses that apply to filmstrips.

FILMSTRIPS

a. The materials available generally meet my needs.. Yes No
89% 9%

b. There is scarcity of materials in a subject area
which is very important to me .... Yes No
46% 36%

c. The materials are generally too difficult for my
students....................................... Yes No
10% 80%

d. The materials are generally too elementary for
my students .... Yes No
4% 85%

e. The materials present too much information too
rapidly for my students .... Yes No
12% 75%

f. The materials present too little material in a
repetitious or redundant fashion .... Yes No
8% 81%

g. The materials are out-of-date in terms of the photographic style, clothes, houses, etc........ Yes No
3% 79%

h. The materials frequently are inaccurate or incomplete in terms of information presented ..... Yes No
2% 87%

i. The materials are too lengthy .... Yes No
9% 80%

j. The materials are poorly organized.............. Yes No
4% 82%

k. The students cannot identify with the persons shown in most materials........................ Yes No
14% 72%

l. There are too few materials in color............. Yes No
10% 75%

IV. What purposes have films and filmstrips served for your teaching most of the time? Please check all statements that apply.

a. To motivate students about some new topic 97%

b. To convey a set of important facts 85%

c. To clarify complex ideas....................... 68%

d. To explain a skill............................. 58%

e. To develop an attitude or appreciation for some abstract idea or concept 75%

f. To provide students with a common experience which would be generally unobtainable in any other way 92%

g. To provide a review or summary of information learned in other ways by the class.............. 91%

h. To provide supplementary or enrichment experiences for individual student study times 73%

i. To provide an occasional break for enjoyment 68%

j. Other: ________________________________ 3%

V. How have the film projectors worked for you? Please check all the statements that apply.

a. Generally, the film projectors have worked without difficulty 98%

b. My film projector was gone frequently for repair.... 2%

c. The film projector is too heavy to move easily 42%

d. The film projector was difficult to thread 2%

e. The film projector frequently got too warm......... 2%

f. The noise level of the film projector was too high... 24%

g. The film projector bulbs burned out frequently...... 4%

h. It was difficult to maintain good focus on the film projector 2%

i. It was difficult to get good sound on the film projector 2%

j. It was difficult to get sound and picture together on the film projector 1%

k. The "still picture" was too dark to see well 45%

l. There were some problems with the clutch 2%

m. The rewind system didn't work right occasionally... 12%

n. I had trouble finding the right controls in the dark .. 2%

o. Other: ________________________________ 5%

VI. How have the filmstrip projectors worked for you? Please check all the statements that apply.

a. Generally, the filmstrip projectors have worked without difficulty 89%

b. The filmstrip projector was frequently gone for repair 3%

c. The filmstrip projector is too heavy to move easily . 3%

d. The filmstrip projector frequently got warm 25%

e. The noise level of the filmstrip projector was too high 15%

f. The filmstrip projector bulbs burned out frequently . 5%

g. It was difficult to maintain good focus on the projector 10%

h. It is difficult to start threading the filmstrip....... 22%

i. It is difficult to keep the picture framed properly ... 7%

j. I had trouble finding the right controls in the dark .. 2%

k. Other: ______________________________ 5%

VII. How are your room conditions for showing films and filmstrips?

a. Conditions are generally satisfactory............. 75%

b. Ventilation could be improved 40%

c. Light level could be reduced for better viewing 36%

d. Acoustics could be improved for better listening ... 13%

e. The screen could be placed in a better position 16%

f. More flexible seating would permit better viewing ... 15%

g. Projection carts should be easier to move 3%

h. More space could be used for projection cart storage 23%

i. Adequate space for individual student viewing in my room would be of assistance in teaching 42%

j. Other: ______________________________ 3%

VIII. What kind of technical procedures have you generally used in the showing of a motion picture? Check all the statements that apply.

a. Show the film all the way through once only 66%

b. Show the film all the way through twice or more ... 49%

c. Show the film once with occasional stops for questions or comments 68%

d. Show the film twice; once straight through and the second time stopping it occasionally for questions or comments 57%

e. Show the film twice; first stopping it occasionally for questions or comments then the second time showing it completely for continuity and review ... 42%

f. Show parts of the same film on two or more different days 44%

g. Show only a brief section of the film which was useful for a particular point 58%

h. Other: ______________________________ 2%

IX. In what ways have you generally used the sound track of the films? Check all the statements that apply.

a. Used sound and picture combined as it exists 95%

b. Turned off the sound and narrated the film myself .. 41%

c. Turned off the sound and had students narrate 55%

d. Turned off the sound and ran the film without any narration 30%

e. Ran the sound track without the picture 8%

f. Other: ______________________________ 2%

X. What kinds of technical procedures have you generally used in the showing of filmstrips? Check all those statements that apply.

a. Show the filmstrip all the way through once only ... 59%

b. Show the filmstrip all the way through more than once 49%

c. Stop the filmstrip frequently for questions and comments 78%

d. Show the filmstrip and read the captions aloud myself 56%

e. Show the filmstrip and have students read the captions aloud 81%

f. Show the filmstrip and have everyone read captions silently 41%

g. Show parts of the same filmstrip on two or more days 44%

h. Show only a brief portion of the filmstrip which was useful for a particular point 58%

i. Other: ______________________________ 5%

XI. In what ways have students generally been involved in the use of films and filmstrips in the classroom? Check all those statements that apply.

a. Operational tasks such as drawing the shades, operating light switches, obtaining or returning materials 95%

b. Operating the projectors under my direction 82%

c. Reviewing and selecting materials for use by the entire class 45%

d. Introducing materials the whole class will see..... 41%

e. Looking for specific factors or information during the classroom viewing of the film or filmstrip 75%

f. Completing independent study by using specifically assigned films and filmstrips for study purposes .. 50%

g. Independent teaching of specific lessons, i.e. the student uses a film or filmstrip and actually teaches the class lesson 29%

h. Other: ________________________________ 5%

XII. What special reactions or changes have you noticed in your students which you would attribute to the use of films and filmstrips this past year? Please check all that apply.

a. No particular reactions or changes could be attributed to the use of films and filmstrips this year 3%

b. Vocabulary seems to have improved 78%

c. Reading interests seem to have been stimulated ... 81%

d. Discussion or oral expression seems to have improved...................................... 85%

e. General information seems to have increased 92%

f. Independent study seems to have been stimulated .. 52%

g. Observation skills seem to have increased 77%

h. Critical judgments seem to have sharpened 52%

i. More reference materials are being used 47%

j. General study habits seem to have improved 35%

k. Self-discipline in class seems to have improved .. 39%

l. Attendance seems to have been improved.......... 23%

m. Other: ______________________________ 3%

XIII. Has the availability of the films and filmstrips contributed anything to your personal or professional background? Please check all statements that apply.

a. The materials haven't particularly increased my own personal or professional background............. 8%

b. My knowledge of the whole curriculum has been improved 63%

c. My knowledge of one or two subjects has been improved 53%

d. Mostly I learned some general big ideas 41%

e. Mostly I learned some bits of factual information.. 50%

f. From things I saw or heard in the films and filmstrips I learned some new ways of teaching or explaining that I hadn't thought of before 82%

g. I am using more and different types of audio-visual materials now that I have seen what I can do with films and filmstrips 51%

h. I am interested in learning how to use other types of audio-visual materials now that I have seen what I can do with films and filmstrips 85%

i. Other: ______________________________ 2%

XIV. What are your general reactions to Project Discovery? What would you most like to see changed? Please check all statements that apply.

a. Don't change anything in particular. It is great just as it is 32%

b. Forget the whole project. It really isn't so much... 0

c. Better film guides are needed 16%

d. Filmstrip guides are needed........................ 51%

e. A library card catalogue system could be used (or improved) 10%

f. A simple and shorter list of materials should be available according to grade levels or subject matter topics so it would be easier to choose the materials I want to use.......................... 37%

g. Smaller groups of materials should be assigned to particular grade levels or subject areas and the materials should be assigned to those teachers only. 4%

h. Some grade levels or subjects need more materials.. 75%

i. Other types of materials should be added (e.g.: Slides, overhead transparencies, tape recordings, etc.) 66%

j. Only color films and filmstrips should be added 21%

k. Teachers should have more time and opportunity to preview materials 61%

l. Teachers should have more time to plan lessons involving film and filmstrip use 47%

m. Prepared student examinations are needed to accompany the films and filmstrips 28%

n. The evaluations of other teachers should be made available to help you choose the right materials 35%

o. Students should not be permitted to take materials home because it interrupts or delays teacher plans to use the materials 6%

p. Students should not be permitted to take the classroom projectors home because it interrupts or delays teachers plans to use the equipment 13%

q. Students need more and better conditions for individual study of the materials in the school 52%

r. Students should not be permitted to see the materials except for class work or specific teacher assignments because it creates problems for teachers trying to present the same material in class 7%

s. Teachers need more professional assistance from persons working as a librarian or audio-visual consultant 23%

t. Teachers need more in-service workshops to learn how to operate the projectors and select materials .. 9%

u. Teachers need more in-service workshops to learn different ways to use the materials in class 42%

v. Other: ______________________________ 2%

XV. What have been the effects of the use of films and filmstrips on the curriculum in your classroom? Please check all the statements that apply.

a. There has been no substantial change in the curriculum 11%

b. I have been able to convey more information 88%

c. I have been able to teach several complex ideas with more success than before 76%

d. I have been able to enrich and supplement the usual curriculum better than before 92%

e. I have been able to provide more individual student assignments than before 38%

f. I have had less remedial work to do than before ... 14%

g. I have had less review work to do than before 20%

h. I had to drop some topics we used to cover in order to include the materials I wanted to use 14%

i. I found I got far behind on some important matters because I tried to teach some things in depth 12%

j. I was able to teach some attitudes and appreciations with more sucess than before 78%

k. I have been able to teach one or two subjects or topics that I couldn't teach before because I didn't have the materials to do the job 62%

l. Other: ______________________________
______________________________ 2%

CHAPTER IV: DISCUSSION

In reviewing the total data accumulated several discrete questions arise. However, all discrete questions appear to relate to a few general characteristics of the total study. This chapter attempts to outline these general situational factors and provide some background for interpretation.

The Function of the Study. It must be remembered this study was primarily "fact-finding." The purpose was essentially description of the existing situations. The "test" of the study's utility would come in a planned second phase wherein the collected facts would be used to inform visitors to the individual schools. In one sense, the value or relevance of the collected information could only be determined by the amount of assistance that information provided to other educational personnel seeking to evaluate the project itself. There was no intent or attempt to "prove or disprove" any aspect of the project itself.

Under the above circumstances there is, within the totality of the report, an "absence of closure"--a lack of completeness or definite termination. This was intentional and it clarifies, if not satisfies, the abruptness of the several individual parts of this study. Cohesiveness or integration of the various parts was not a primary goal since the initial plan was to provide a variety of information for a variety of visitors with different or multiple purposes.

The Lack of Definitive Data. In almost every instance of the sub-studies which were completed under the total study, there is some caution or qualification provided about the limitation of the available data. It was expected prior to the start of this study that such situations would exist, but even the project staff was surprised and occasionally frustrated in their inability to systematically and absolutely collect all relevant and important information. That this should occur is probably due to several factors.

First, this was an evolving situation. Circumstances changed from day to day in each school and changes were sometimes of greater importance to the study than any permanence which might have been enforced. The study staff had agreed to keep any interference to a minimum and could impose no controls to freeze the situation; many times this meant the situation changed before the first set of conditions were adequately monitored or recorded.

Secondly, the study staff was totally unprepared and understaffed to handle the volume of data which quickly accumulated. With a total of five full-time professional staff and one full-time secretary, plus several part-time personnel, the collected information inundated this small group. It took approximately three months (from September through December) for the data accumulation to reach the alarming proportions it achieved. In the remaining five months of the initial contract it was difficult to adequately treat the available data; correction or modification of procedures was almost hopeless with the limited personnel scattered at five distant sites. If most of the information could have been processed with sufficient rapidity, some of the critical questions could have been identified and information (which was later impossible to obtain) could have been collected.

Third, the very nature of the project meant participation of three cooperative but discrete agencies with no overall coordination. The commercial firms were supporting the material needs of the project. The school districts were implementing the project, each in its own way. This study was being conducted by a separate research team. While the most cordial cooperation was present, each agency responded to its individual roles and tasks with an immediacy which occasionally left one of the other agencies without critical information. This factor produced a diversity which would be important , we felt, to future visitors to the different sites. However, it contributed to the loss of information which could have completed some of the sub-studies reported here.

Fourth, within the school districts there was a lack of accurate information that would have been useful to the study. The statistical information or records would have had little overall value to the schools, that is why the information wasn't available, but such information could have provided base-line data or documentation to have completed some of the sub-studies. Although more than one of the participating schools had personnel and other resources that would be better-than-average for most American schools, it is obvious they do not and cannot collect a large variety of statistical information about their schools. Much information that would be useful to a research study is simply not important or possible for the operation of a school building.

A Note on the Diffuse Response. Large portions of the available information are the free verbal responses of participants. This "testimony" many times lacks the precision which might be desired. It should be remembered, however, that this study sought to provide information for visitors to demonstration sites. And the assumption was that visitors to demonstration sites were coming in large part for just such "testimony" from peers whom they trusted. Also, it was the working policy of this study to take the responses as given; this policy implemented our belief in what was relevant information as well as providing the least interference with the operational project.

Respondents could only react to those questions posed to them. In hindsight, it is obvious we might have asked more intelligent or more precise questions. The format of the interviews and questionnaires did not change because (a) the volume of data prevented correction or modification where appropriate in sufficient time, or (b) consistency of study procedures was maintained to measure presumed changes over time.

While the responses to any discrete question may seem diffuse, there appears to be a general consistency throughout the verbal and written responses over time, and across grade levels and districts. The sum of the responses seems to equal more than the parts. Many of the precise elements of the individual questions could have been articulated by the school personnel had the study provided probes of greater precision and depth. The internal consistency of the totality of responses provides a degree of confidence.

The Presumed Impact of the Innovation. The obvious and basic assumption of the project and this study is that the activity itself was an innovation in the school systems. Given this assumption, the results reported appear to reveal little measurable change in the schools. Some of the relevant factors may be the speculations offered below.

a. The Basic Operating Principle of the Project. It was specified by the participating commercial firms that teachers would not be required to make any specific uses of the equipment and materials. On the contrary, teachers were encouraged to "discover" any and all uses for the media in amounts of their choosing, thus the name, Project Discovery. This principle of feedom could have become one of isolation. Since everyone could and should do as they pleased, there was little emphasis on achieving any specific goal; in fact, there could have been some interpretation which suggested cooperation might destroy creativity. Teachers did not communicate much with each other, even in the same building. Principals were very reluctant to suggest any operational goal. This is noted, not as a judgment of the desirable versus the undesirable but, merely as a factor which might have reduced the impact of the project on the school. (It has even been suggested by members of this study staff that the use of the materials and the acceptance of the project might not have as great if this "imposed freedom" had not been present. The suggestion is that only in the context of such complete freedom could the project have attained the media use reported.)

b. The Relative Size of the Project. Although the dollar cost was large by conventional standards (roughly $5,000 support for each classroom), the total project was small in the local community and the nation as a whole. Even within the community, except for the Terrell site, implementation in one building was a small effort within the total school district of several buildings.

c. Stability within Change for the Teachers. Although the addition of resources per teacher was a large "change" for the individual teachers, the use of the equipment and materials was a conventional practice for them. Regardless of the amount of the available resources, teachers were doing primarily the same things they had been doing. In this sense, the project did not represent a great instructional innovation. It was a great administrative innovation in that it provided resources on a scale and in a comprehensiveness that was dramatically different. It was not a great instructional innovation because if offered an opportunity for teachers to "do better" what they usually did, even in these schools.

d. The Hidden Impacts. It is, of course, highly possible that this study concentrated on situational elements that were not dramatically changed. Correspondingly, it is possible this study did not measure or did not measure sufficiently the impacts that did occur. When reading the entire report, the question of instructional change seems hidden. One is forced to wonder about the significance of the "long" lessons and the "longer units" and the classroom activities that must have been forced out by the very use of increased number of films and filmstrips. It is somewhat difficult to accept the "Hawthorne effect," as a total answer, to the overwhelming positive and consistent response of all school personnel to this project. "Having more" does not seem sufficient answer either.

CHAPTER V: CONCLUSIONS, IMPLICATIONS

In the most typical research sense there were no conclusions intended from this study. What is presented is a refined summary of the findings, descriptive information. In Chapter III the discrete small studies were presented as the "units" which this project staff concluded. The summary given here is reorganized around the stated objectives of this study. It must be remembered this was a study of the "Project Discovery" event, not the demonstration situation known by that name.

Objective: To define the specifics of the immediate situation in a context which permits and encourages generalization to other settings.

The reports of findings offered in Chapter III are total reports from all schools and can provide some basis for generalization.

Specific information related to each participating school is offered in Appendix B. These data include descriptions of each district as gathered and summarized by staff members from descriptive information provided by the school district or local newspaper accounts. Data from the 1960 U. S. Census are included as the best uniform, comparative information available. Other school-identified data , provided on related major school activities and comparative district costs, are given on page 50 through 55.

The descriptive information and census data in Appendix B indicate the varying socio-economic characteristics of the communities: decaying inner-city; suburban wealth; expanded youthful suburb; industrial-agricultural small community. The participating elementary school buildings each had a student population of approximately 750 and a professional teaching staff of approximately twenty-five. All elementary schools provided grades one through six; two of the buildings also housed kindergarten classes.

The districts could be classed as typical only in the general characteristics described above. Each district and building was selected by the sponsoring commercial firms on several factors including perceived administrative leadership, positive faculty acceptance of the project, and agreement by administration and faculties that teachers would be free to use the materials in any manner of individual choice. For each small study made, variations did occur from school to school. However, the total general responses were so similar and consistent in character that generalization to unique sites might be made with some confidence.

Objective: To describe the evolution of the demonstration and the administrative, logistical, and process decisions which might enable others to implement the demonstration in other settings.

The demonstration, in one sense, did not "evolve." The principle characteristics of Project Discovery were determined by the participating schools and companies at the beginning. These characteristics were then implemented by the schools. Administrative and logistical decisions were primarily determined and implemented prior to the presence of resident-observers from this study. Process decisions during the year's observation were so diffuse or so independent of the total project that specific data is not available.

From interviews with principals and teachers, from observation of faculty meetings, and from incidental information acquired through the year-long residence in the district, the various stages of the project can be described in general terms. These stages are essentially sequential in emphasis. However, once the project was operational, many of the separate phases described below were operating simultaneously.

Acceptance of the Project: The initiation of the project by the commercial firms and acceptance by the local school districts occurred prior to the official start of this study. The commercial firms contacted the administration in each school district as a first step. The final decision was made by the superintendents but only after discussion with and concurrence by the building principals and the respective faculties. The highest level of formality to the agreement appears to be correspondence between the chief school administrators and the commercial firms.

Installation: Building leadership was informally assigned to building principals. However, in three out of four districts, the building principal had available and deliberately involved administrative assistance outside the building and library assistance within the building. The district administrative personnel involved were, in two cases, instructional materials center administrators who served the entire district. In the third district, audio-visual coordination duties were expanded to a full-time position. Because of unique circumstances within the fourth district, the building principal was the sole source of leadership.

In processing the materials for the media library each district used available resources in unique ways. One district used professional library personnel immediately and regularly employed in the building, with the addition of temporary clerical help. One district used professional library and clerical help regularly employed at the district level. One district used professional teacher-administrator personnel and temporary clerical help. One district employed a new professional librarian.

Installation costs separated from operational costs, were not available.

Teacher Services: Each classroom was equipped with an automatic-threading motion picture projector and an automatic filmstrip projector on a movable cart. Each classroom had a projection screen available. Electric power requirements required serious and delayed modifications in one building. Room darkening was delayed four to six months in a few rooms of one building. Room darkening for a few rooms was never adequate, from the teachers viewpoint, in a second building. Additional "stand-by" projectors of both types were available in each building.

All materials were available to all teachers on a "first come--first served" basis in all schools. For part of three initial media libraries, some delays were experienced because of late shipment or delayed processing of materials at the school site.

A type of motion picture catalog was available to all but a few teachers at the beginning of school. A filmstrip list was available immediately only to Shaker Heights teachers who were in the second year of the project. During the year card catalogs of materials were available in each school.

Full-time professional library assistance for the media collection was available to teachers in only two buildings. Clerical or student assistants were available at all building media libraries. All media libraries had some time restrictions, when assistance was not available or the media library was not open, during the regular school week working hours.

Teachers were requested to procure films or filmstrips by a written record of (a) the teacher's name or room number, (b) the title and number of the media item being used, and (c) the date of withdrawal. This was the minimum request in each district, although in practice even this was unnecessary (i.e. teachers could and did walk in or send students in and take the items wanted without any record being asked or made).

Student Services. All districts permitted students to use the media library either in school, at home, or in both locations. One district permitted filmstrips and projectors to be taken home from the first day of school. This same district permitted films and motion picture projectors to go home beginning in December. Another district permitted films and filmstrips, plus the required projectors, to go home first in January. Another district permitted students to use projectors and materials only upon completion of a performance test with the equipment and materials. Another district never permitted the equipment or materials to be taken from the building.

Within each school building, individual teachers permitted students to use equipment and materials within the room for independent study. All four districts had some type of facilities for students to use the equipment and materials in a general location away from regular classrooms. (For available information on student use, see Appendix A.)

Public Relations. In each district, news about the project was communicated to the local parent-teachers group. At least one public meeting emphasizing the project was held in three of the four districts. Professional personnel of three districts wrote journal articles. Teachers committees in all four schools worked on an information brochure about activities within the school. Professional personnel participated in project-related meetings outside the district for an average of 13 3/4 man-days per district. In one district presentations were made by school personnel before almost every service organization in the immediate community. (Additional state or national publicity was generated outside the district at three sites.)

Maintenance of Materials and Equipment. These services were provided to the districts by the participating commercial firms free of charge and upon request from the district. No technical or professional personnel were employed by any district to perform these services. The liaison between the media library and the commercial firms, in relationship to maintenance of materials and equipment, was the responsibility of either the building principal or clerical personnel working in the media center.

General Cost Factors. The cost study (see pages 52-55) suggests each school responded to the problems on the basis of existing resources and prior policies of the school district. Manpower expended varied from 94.5 to 323.5 man-days per district. In three out of four districts the number of professional personnel man-days required greatly exceeded that of clerical personnel.

New space allocations varied from 80 to 3,555 square feet. (The latter figure represented five building installations.)

Dollar costs varied from $628.00 to $7,772.40. (The latter figure again represents five building installations.)

Objective: To describe the administrative processes in a demonstration of the use of new media.

Because of the nature of the project (see page 124, last paragraph) administration of the demonstration was operating in a diffuse manner. From the study on constraints (page 26), from the principal's interviews (page 58), from selected questions in the Professional Description of the Project (page 109), and from interviews related to the cost study, the following general description of the administrative actions has been developed.

Authority and responsibility resided primarily with the building principal or the project coordinator. Operational procedures were the province of the professional or clerical personnel at each media library.

Once the media library was organized as a library and housed in a specific location, most policies and procedures were decided by the building principal with the cooperation and advice of the local teaching staff. Virtually no policy or procedural blocks were placed upon the faculty to the free use of any material at any time. Consensus upon policy was the practice and personal responsibility was the persuasive force, in regard to teacher use of materials.

Decisions regarding student use of materials were made primarily by the building principals. These were based upon their perceptions and beliefs about the community expectations and the capacities of students. Protection of materials and equipment was a consideration in these decisions.

The organization of the media libraries was determined primarily by professional library personnel where they were available. Systems ranged from the simple listing and housing of materials in a numerical order to complete integrated card catalogs and standard library processing and actual shelving of the materials with the comparably indexed books. Each system seemed to work equally well for most teachers at the respective schools. Decisions on the library system were apparently based on the amount of training and experience of the personnel available and the amount of personnel time available.

Public relations decisions were primarily the choices of building principals or the project coordinator. Most activities were in response to specific requestsfrom agents or organizations outside the school district.

Decisions and actions regarding maintenance of equipment and materials were divided between the building principals and the clerical or professional personnel operating the media library. The principals were occasionally uninformed about maintenance needs because they could not maintain close surveillance and because teachers and media library personnel did not report needs. The media library personnel were occasionally uninformed about procedures for maintenance or let the maintenance work accumulate until it attracted the attention of the principal.

One view of this situation suggests the professional role of principals and media-library personnel was the essential ingredient in the installation of the project. However, once the project was in operation the administration of the project was virtually in the hands of the clerical personnel in the media centers.

Once the project and school were in daily operation the principal was unable to provide the level of leadership and supervision which he felt was necessary. Since the only immediate support was the clerical personnel (or student and parent assistants) who were staffing the media library, the principal was forced to depend upon these people and the initiative of the faculty.

The clerical personnel were generally dedicated persons who generated a high degree of personal interest in the project. However, with their limited background knowledge of technical library procedures or instructional practices these persons could not provide a type of assistance which teachers desired.

Thus, in one sense, there was no true administration of the project. Principals were already overloaded with their usual duties. The clerical personnel were unable to fill the leadership gap because of inadequate training or experience. However, the very "freedom" of the project enabled teachers to develop those solutions which proved most satisfactory to them as individuals.

It would appear that teachers, principals, and clerical personnel would support the addition of a full-time professional media administrator for a project of this size. This recommendation stems not from dissatisfaction with the present situation but a frustration that a higher potential could not be achieved with the resources available.

Objective: To describe the instructional processes in a demonstration of the use of new media.

From the 410 classroom observations of media use for instruction (see page 31), from the monthly teacher interviews (see page 77), and from the year-end professional description (see page 108), a picture of instruction with films and filmstrips can be constructed. Although all of these dealt with subjective judgments, the information from carrying sources and varying times provided a consistency which strengthens confidence in the general description.

Teachers selected materials for preview and use in a variety of ways. Available film guides and school-prepared lists of materials plus conversation with other teachers were the primary sources of initial information. Previewing the materials was viewed as essential by most teachers; some teachers reported that the occasional use of non-previewed materials had merely reinforced the need to preview prior to use.

Purposes for media use were varied and usually multiple. Motivation, review, and common experiences were the primary group. Conveying facts, developing attitudes, and providing enrichment were a second group of purposes. All of these were indicated by more than 70% of the teachers in all schools.

The average film use recorded was 66 per teacher; the average filmstrip use was 37 per teacher. At least three teachers in one building reported no filmstrip use; two teachers reported using less than ten films. At least one teacher used as many as 147 filmstrips; at least one teacher used as many as 187 films. Thus, a wide range of use patterns emerged. The "average" or "typical" teacher neither rejected the materials, nor did they "make a movie house out of the classroom." And teachers apparently preferred films to filmstrips approximately two-to-one; this preference is even greater when one considers that almost three times as many filmstrips were available.

For observed instruction one audiovisual medium was used about 50% of the time; two were used 36.4% of the time; three were used 11.5% of the time. The media observed in use were films (72.9%), chalkboards (40%), filmstrips (30%); nine other individual mediums were used for a combined total of more than 25% of the lessons observed.

During these same observations no print media were observed in use 70.7% of the lesson. About one of four lessons involved the use of some print media; textbooks were used in about 10% of the lessons and duplicated materials were used less than five percent of the time.

The complete medium (i.e. the total length of the film or filmstrip) was used about 80% of the time. Almost 30% of the time, the teacher or students provided the accompanying narration for the medium. Thus, 20 to 30% of the time the teacher or students were selecting portions of the media or were modifying the presentation in some way. Many teachers used "novel" practices for specific applications. E.g.: Teachers would interrupt a film in progress to clarify or expand a point; sound tracks would be unused; parts of the media might be reversed and repeated several times for a limited purpose.

In general, teachers exhibited "conventional" teaching practices, i.e., the media were introduced, the media were shown, the media were discussed. Few immediate follow-up assignments were made and virtually no examinations on the content of the medium were given. More activity followed the audiovisual presentation than preceded it. Teachers generally directed the discussion by the entire class (approximately 70 to 85% of the time). The preferences for discussion content, both pre- and post-media use, were (in order) key points or questions to be answered (about 40% of the time), content summary of the medium (about 15% of the time), and vocabulary in the medium (about 15% of the time).

There is some suggestion that single lessons become longer in time on any given day and that teaching units extended to more days with the use of media.

Teachers indicated science and social studies as being the subject matter areas where media were most useful. This was confirmed by the observations made by the resident research team of this study. (This is perhaps a reflection of the available library of materials rather than a unique contribution which films and filmstrips might make to the curriculum.)

Teachers reported the greatest curriculum benefits to be in the area of enrichment (92%). This was supported in part by the observations which identified 22% of the observed lessons as "enrichment." More than 75% of the teachers indicated the audiovisual media had contributed to the transmission of information, the teaching of complex ideas, the development of attitudes and appreciations. Sixty-two percent of the teachers reported they could teach some subject matter they couldn't teach before because materials were now available to do the job. This was confirmed in the teacher interviews by reports of new content or units introduced by teachers as a result of the available media.

Teachers judgments of effects upon students were positive and multiple. Beyond reports of general information increase (reported by 92% of the teachers), a cluster of positive judgments centered around (a) discussion skills, (b) vocabulary development, and (c) observation skills and critical judgment (from 52% to 85%). Classroom discipline was reported improved by 39% of the teachers.

This study was not able to secure any concrete measures of increased student knowledge or skills. Shaker Heights' comprehensive testing program could develop data which might shed light on this factor in the Mercer School. At Terrell, a special study was being conducted in connection with Project Discovery; when details are available from that study, some additional information might be available. This study was implemented too late to obtain adequate pre-project measurements; funding was not available for measurement during the life of this study; the study was not extended for the planned third phase.

Objective: To record positive and negative results and effects of the demonstration and to record the rationales for decision-making in the immediate situation.

As indicated above, decision-making was a diffuse activity which occurred at the levels of individual enterprise or abstract consensus development. However, some "positive" and "negative" effects can be inferred. This study attempted to identify this type of information specifically as an important asset to demonstration activity. The reasoning was that demonstration situations conventionally present a uniform appearance of success, sometimes to the point of "selling" the demonstration. While this was considered legitimate and directly relevant to demonstrations, it was also considered not sufficient information for the potential adopter. The demonstration viewer would recognize that some problems have to exist and he would be very interested in noting pitfalls to be avoided if possible.

Thus the "negative" results noted are not intended as criticisms or failures of the project or any personnel involved. These results appear to be aspects that existed under the unique circumstances of these specific demonstration situations. Several of these circumstances were recognized during the project and local school personnel were making plans to alter those that could be alleviated. In another sense and under different conditions, these same "negative" factors might be considered valuable or a necessary cost of conducting such an activity.

The Negative Effects

1. Personnel Costs of Installation: The personnel time costs in connection with establishing and installing the media library were an unusual expense for a single school building. From 50 to 150 professional man-days are not usually available for the development of a single project. The principal needed a type of professional assistance which is not available in most single elementary school buildings: an instructional materials specialist. Where personnel was available to assist the principal, the project still required an expenditure of time which was added on to regular duties.

Audiovisual media do not have the established procedures and resources for library processing which are associated with text materials. Therefore, establishing a media library storage-retrieval system is more difficult and time consuming. It proved to be a real burden to establish very rapidly a library of more than 1,000 audiovisual items in a single building.

2. The work-load of teachers increased because of the required preview time. Teachers did absorb this load and could accommodate it more satisfactorily as the year proceeded. However, some frustration still existed at the end of the year. Adequate use of the media library probably was restricted in part because teachers were unable to preview large parts of the library. A teacher would have to preview approximately five items every school day just to see the complete library by the end of one year.

3. Adequate information about the media library did not exist. Some frustration and lack of media use probably was attributable to lack of adequate information about the existing collection of materials. Teachers were provided with motion picture guides which were "more than they wanted to know" in some cases. Filmstrip descriptions were lacking for a long time in some places. Card catalogues and lists of filmstrip titles helped the situation but were not immediately available. While many teachers enjoyed the "luxury" of browsing through an extensive library, many teachers wanted a better description of filmstrips, an accurate listing of all items, and an annotated listing of films and filmstrips which would be of most immediate use to their grade level or curriculum interests. (As indicated in item 1 above, this is more a problem of the audiovisual field than the inadequacies of local support for this project. However, in planning a duplication of this project, potential adoptors should consider larger personnel costs in the preparation of adequate information guides for faculties.)

4. Accessibility of media was not achieved at a level of teacher satisfaction. Although teachers were overwhelmingly in support of the project (see pages 110-114), 44 to 48% of the teachers reported one or more problems in obtaining materials (see page 110). The delays in obtaining materials came from simultaneous demand and some "hoarding" (failure to return) of materials by some teachers. Although delays were minimal, particularly when compared with "normal" circumstances, teachers in the project quickly came to expect instant availability and were frustrated when it did not happen.

5. Ventilation and light-control problems were serious and continuing problems for some teachers. All schools had some ventilation or light problems; two schools had serious continuing problems. The technical problems of installation and maintenance of audiovisual facilities are not easily solved in a rapid manner and without professional guidance. Potential adoptors should consider adequate lead-time and competent technical assistance as essentials for development of a similar program.

6. Administrative work-load was increased. Principals devoted from two weeks to one month or more on the installation of this project. This was time added to an already crowded schedule and much of it was probably summer and week-end work. The workload prior to operation was in the establishment of the media library. Once school was in session the principal was occupied for additional weeks with demonstration activities, either entertaining visitors or discussing the project at out-of-town meetings. The administrator was able to maintain only a frustrating and fleeting contact (see pages 68, 70, 74, 75) with the project. The value of the project was never in question with the administrators. They recognized the additional pressures upon them; their regret was they could not respond in a way that would provide the instructional leadership they believed to be most important.

Positive Effects

1. The project met real needs of teachers. The Teacher Oppinionnaire given at the beginning and end of the school year showed a universally high positive reaction to audiovisual aids which was reinforced by the project operation. Almost other major factors of the project received strong support by the participating teachers.

a. Classroom instruction was technically easy. After a one-day workshop with the projection equipment, most teachers were at ease in classroom projection for instruction. Principals and visitors were suprised at the routine nature of classroom projection. At the end of the year, teachers gave a high approval of the projection equipment (filmstrip projectors 89%; motion picture projectors 98%). The minor problems mentioned were typical of all projection equipment. In observed classroom instruction, only two percent of the lessons were delayed because of all technical and environmental problems.

b. The materials library was an effective instructional support. The average teacher was able to use 66 films and 37 filmstrips during the year. At the end of the year, teachers gave a high positive approval to the available library (filmstrips 89%; films 90%). The major complaint was a lack of additional materials in other subject areas. (Forty-six percent requested more filmstrip materials; 54% requested more film materials.)

c. Teachers felt free to use the materials in the manner of their individual choice. A few teachers in one building used no filmstrips. Some teachers in all buildings used less than ten films or filmstrips. Other teachers used more than 100 films or 100 filmstrips. Variations of use levels were evident in every building and among all buildings.

2. There was a large, persistent and pervasive reaction of positive "good" that surrounded the project.

a. Faculty and administrator response to the total project was enthusiastic and growing throughout the period of observation;

b. Faculties and administrators saw many positive effects upon the students' learning environment, including a greater ease of learning and support for more independent study;

c. Other staff members in the schools reflected very positive feelings about the project, even late in the year. Where observable, the reactions of parents, school board members, and the general community were very positive.

3. Teachers found very satisfying effects upon curriculum and instructional goals.

a. The materials were of special assistance in science and social studies curriculums. Ninety-two percent of the teachers reported being able to enrich and supplement the general curriculum. Sixty-two percent reported being able to teach new subject matter because of the available materials. Only 11% felt there had been no substantial change in the curriculum.

b. Teachers reported in interviews, and classroom observations confirmed, that lessons and teaching units became longer at all grade levels with what teachers felt was a greater depth of content.

c. Teachers reported several perceptions of positive effects upon students. Eighty-eight percent of the teachers reported being able to convey more information; ninety-two percent reported the general information of students seemed to have increased. However, teachers attributed many additional influences upon students to the availability of the media: 81% indicated reading interests were stimulated; 85% felt discussion or oral expression was improved; 77% thought observation skills were increased; 52% thought critical judgment and independent study were improved; 78% noted vocabulary improvement.

4. Teachers were professionally stimulated by the project opportunities. Interviews and other data suggests teachers previewed more materials than actually used, which would mean the average teacher reviewed more than 125 audiovisual materials. This was done with no reduction of teaching duties. Eighty-two percent of the teachers reported they had learned some new ways of teaching. Sixty-three percent reported knowledge of the whole curriculum had improved. Eighty-five percent reported being interested in knowing more about other audiovisual instructional materials. Fifty-one percent reported using more and different types of materials (other than films and filmstrips) as a result of the project. Principals confirmed new requests from teachers for other media and equipment. Although most observed teaching did show conventional use (in the sense of introduction-presentation-discussion) forty to seventy percent of the teachers reported occasional use of novel procedures in the use of media. Teachers adapted the medium and the techniques of use to particular instructional purposes.

5. The "fringe benefits" of the project were recognized and appreciated by the total staff. While 23% of the teachers requested a full-time instructional materials specialist, most teachers appreciated the opportunity to be not only "consumers" but "administrators" of the project. Teachers liked the freedom of use, the lack of administrative procedures, and the use of informal consensus to achieve individual patterns of use. The improvement of room conditions (light control, ventilation, power, projector carts, etc.) were recognized as being generally useful to all instructional situations and it was felt these improvements might not have been made without the project. The same reaction was true for the additional professional or clerical assistance which was applied to the project operation. The project equipment and materials were recognized as being useful in supporting other special activities of the school, e.g. other major projects, public school meetings, independent study, community public relations activities. The total school staff was stimulated by the attention of national publicity and visitors. Although a few teachers were disturbed by this attention and the principals found it a greater burden than they anticipated, the staff found the attention rewarding. Several administrators and teachers found opportunities to make professional contributions in speaking and writing about the project.

Some General Inferences

Although it was not the intent of this study to evaluate the demonstration studied, selected inferences might be stated merely from the experience of watching the demonstration through one full school year.

1. If the goal of the project is interpreted as making materials available, the question regarding achievement is answered: "Maybe." There is no standard to compare with this project. To our knowledge, with the possible exception of the United States military services, this has been the largest collection of materials ever made available to this number of teachers. And, probably, this is the only time more than 100 teachers have been free to choose the time and place for the use of this many audiovisual instructional materials.

Who can say whether the average use of 66 films and 37 filmstrips indicates maximum availability? The records indicate that more than 40% of the teachers still met delays in procuring materials and more than 40% of the teachers expressed a need for even greater numbers of materials. The average of 103 media uses probably represents an all-time high for documented use in free choice. Other factors suggest teachers would have used more, if additional materials and teacher-preparation time has been available.

The freedom and facilities provided in this demonstration seem sufficient to confirm teachers will find excellent instructional support from existing equipment and materials. The records of use and expressed needs would indicate the media library was neither large enough nor varied enough to satisfy all the instructional opportunities perceived by teachers. Teachers will use audiovisual instructional materials when they are as accessible as in this project. We do not know yet what the optimum size or curriculum composition of a media library should be.

2. While the true goal of the project probably was innovation in the instructional process, the impact upon the school was in administration. The demonstration sites were single buildings where little if any additional professional administrative support was added. It is a tribute to the individual administrators and the faculties and staff of the respective buildings that so much was achieved in so little time. For the most effective installation and operation of a project of this size in a single school building, additional achievement could be secured by (a) appointment of a full-time administrator for the project, (b) having sufficient development time--perhaps a full twelve months--to plan, prepare, and install the system before actual operation. This would mean a full-time professional administrator for as long as two years, and supporting clerical and semi-professional assistants. Some installation problems (e.g. processing audiovisual materials for the storage-retrieval system) have no simple or easy solution. The demonstration aspects during the operation of the project, are an additional administrative burden. (The latter problem is almost totally unexplored in education. It applies to all demonstration situations and there seem to be no well-developed techniques for operating school systems to use.)

3. Some myths about audiovisual instructional materials might be questioned anew as a result of this project.

a. Teachers cannot or will not learn to operate audiovisual equipment. -- Most teachers learned to operate the equipment in a brief training session. They continued to operate the equipment more than half of the times used during classroom instruction throughout the year.

b. Teachers find it too difficult to use audiovisual materials except on special occasions. -- When adequate support facilities were provided, the average teacher used at least one item every other school day.

c. The use of one instructional medium (e.g. films or books) leads to overemphasis on that medium. -- Teachers found the use of filmstrips and films stimulated students to additional reading interests and the use of a variety of media. Teachers using films and filmstrips expressed a need for more instructional materials and a greater variety of instructional media. (This principle has been understood for a long time in the mass communication field; i.e. people who read newspapers tend to be people who watch television news shows and buy weekly news magazines. Conflict and competition about one superior medium is irrelevant, whether in the education professions or the instructional technology industry.)

d. The instructional materials center (at the single building level or elsewhere) is the wave of the future. -- This project does suggest that greater and more satisfying use of materials can be achieved under certain conditions. This project has not denied the possibilities that

(1) Individual teachers might have their personal instructional materials libraries;

(2) Team-teaching and ungraded schools might more economically use a centralized district library; or

(3) Instruction materials might be "delivered" by electronic means from a centralized library but on the electronic command of the teacher.

4. The utility and value of studies such as reported here is still an unknown. Without the test of the information obtained with selected populations, there is no way of knowing whether the information collected is useful to potential adopters in replicating or modifying the demonstration situation described. It would appear that monitoring a developing demonstration is an expensive study which requires more lead-time and manpower than were planned for this study. With lead-time comparable to the school's one year development time, a study could produce more, and more relevant, information for the demonstration viewer. Such information probably could be used immediately by the participating school to modify the operation of the media services and the demonstration activities. This study, while lacking the precision and techniques of more experimental studies, has produced information that would have been unobtainable without the mutual freedom and cooperation of the school districts and the study team. The value of such information can only be known to the educator or institution which wants to decide whether to adopt, modify, or reject the demonstration described--for another instructional situation.

CHAPTER VI: SUMMARY

This study sought to describe the effects of a demonstration project, known as "Project Discovery," created and operated by four school districts and several participating commercial audio-visual products manufacturers.

The purpose of the demonstration was to create single building audio-visual facilities which would eliminate most of the logistical and technical problems associated with the use of motion pictures and filmstrips in classrooms. In each building, every classroom was equipped with an automatic-threading motion picture projector and an automatic-threading filmstrip projector, a projection cart, a projection screen, room-light controls, and electrical modifications were necessary. In each building a general library of approximately 500 films and approximately 750 filmstrips was placed for the exclusive use of the twenty to thirty teachers in the building. Teachers were to be free to use the materials and equipment in the manner and amount of their choice.

The methodology of the study was the placement of a "project resident" in each district. The project resident, employed exclusively for the research effort, collected data on various aspects of the demonstration project operation. Using some common instruments and living and working at the individual school sites, each project resident observed classroom teaching with the media; interviewed a panel of teachers each month; interviewed the building principal each three months; attended building faculty and curriculum meetings, board of education meetings, and public events of the school; collected data on media use by teachers; informally interviewed the non-professional staff of the building; monitored newspaper accounts of the project; and collected any other available information related to the demonstration project. In effect, the project resident was a "participant-observer" who conducted a case study of the operation within one school district. Data collected were forwarded to a central office for analysis and review.

The purpose of the data collection activity was the accumulation of descriptive information which would be made available to visitors at each of the respective demonstration sites.

The rationale was that, while visitors wanted to see the operation of the project, visitors also needed certain types of concrete information on which to base decisions regarding the adoption of the project being demonstrated. The intent of the data collection was to provide a wide range of data to assist the decision-making of a variety of potential adopters with multiple objectives in duplicating the project.

Because the research study was started after the creation of the demonstration project and because the research study agreed to impose no controls on the existing situation, it was impossible to obtain much desirable information or to conslusively document selected actions occurring within the demonstration. However, the study was able to accumulate substantial information which the school districts could not have assembled while operating the project. The school districts did not have the manpower or resources to conduct an observational study while operating the project and the independence and objectivity of the outside [illegible] research group apparently produced information which might not have been available to an internal group.

The results of the study showed the objectives of the project were achieved in that almost all teachers in all schools were able to obtain and found useful the media library and equipment provided in each building.

The administrative operation of the project was relatively simple. After some initial difficulties in processing the materials for the media library, policy making was a concensus operation between the local administrator and the faculty; minimum operational chores were then carried on by the available combination of clerical, semi-professional, or professional personnel. Practices related to student use of materials varied according to circumstances at each site.

The instructional operation of the project was the individual decision of each teacher. Most teachers used the materials most of the time in a "conventional" way, i.e. the media was introduced, the media was presented, the media was discussed. However, several teachers found several variations of media use which were applied occasionally for specific purposes.

The administrators and the teachers perceived several very positive benefits from the project. These benefits related to the general morale of the school, positive effects upon students, desirable curriculum effects, and "fringe benefits" to the school building participating. Some difficulties were noted in establishing the media library and providing sufficient information services related to the media collection. Additional difficulties were noted related to the work-load of teachers and administrators and frustrations of new expectancies of teachers.

The combined judgment of all personnel at all participating schools was the project should be not only continued but expanded.

APPENDIX

THE CLASSROOM OBSERVATION SAMPLE

Project Residents were instructed to observe each "panel teacher" once a month and additional teachers as available. Under the constraint of not influencing the work of the teachers and the school, these observations had to be made at the convenience of the teachers. At first, residents waited for or sought invitations to observe. Rather quickly, most teachers in most schools gave the resident permission to observe at any time without invitation. Even under these circumstances, residents had to make observations as they were available. Teachers were frequently not using the audiovisual materials. At times, several teachers would be using media at the same time but the resident could observe only one. Residents were urged to "randomize" the observations as possible for teachers, grades, subject matters, weekdays, and time of day.

An analysis of the completed observations which were obtained revealed the following characteristics of the 410 classroom observations made in grades Kindergarten through Six.

Sample by Month

October......	1.2%	February	19.0%
November	17.8%	March	18.5%
December	17.1%	April........	6.8%
January	19.5%		

Sample by Weekday and Time

Monday--17.6%; Tuesday--20.7%; Wednesday--23.4%; Thursday--21.2%; Friday--16.8%; Prior to 12:00 noon -- 37.4%; From 12:00 noon to close of school -- 62.6%; Average time per lesson -- 37.8 minutes.

Sample by District and Grade Level

The numbers in the chart indicate the actual number of observations made at each grade level in each district.

Grade Level	School District A	B	C	D	Total	% of Total
Kindergarten	5	23	13	0	41	10%
First	12	27	14	17	70	17
Second	10	16	16	28	70	17
Third	11	14	12	15	52	13
Fourth	18	12	18	13	61	15
Fifth	17	5	22	21	65	16
Sixth	11	2	18	20	51	12
Total	84	99	113	114	410	100%
% of Total	20.5	24.1	27.6	27.8	100%	

Sample by Subject Matter

The subject matter areas observed were distributed in the following manner:

Reading	6.3%
Writing	1.7%
English	10.0%
Mathematics	5.4%
Science	30.0%
History	3.7%
Geography	7.6%
Social Studies	27.1%
Music	0.5%
Art	4.1%
Health	5.9%

In some instances the numbers of subject matters varied for a given lesson.

Subject Matter Unclassified	5.9%
One Subject Only indicated	85.9%
Two Subjects indicated	7.3%
Three Subjects indicated	0.7%
Four Subjects indicated	0.2%

The Teacher Interview

Procedures for conducting the teacher interviews were outlined as follows:

1. Project Residents will interview a selected panel of teachers each month specified during the school year.

2. The panel will consist of one teacher from each grade level (K-12) in the building or district participating in the study.

3. Project Residents will select randomly one panel member from the total list of teachers assigned to each grade level. One alternate panel member will be chosen in the same manner.

4. The voluntary cooperation of each randomly selected teacher will be sought by the Project Resident. Panel members who agree to cooperate will remain on the panel for the entire school year.

5. In cases where the original panel member leaves the school or chooses to leave the panel, the alternate will be asked to cooperate as a regular panel member. Another alternate should be selected randomly from those teachers remaining on the list of teachers assigned to the pertinent grade level.

6. The Project Resident should go to the panel member at a time and place mutually agreed upon in advance. The interview schedule should always be used. Interviews will be held at the teacher's convenience and insofar as possible limited to one-half hour, unless the teacher is willing and able to continue.

7. The basic interview instruments used during the course of the study will be:

    a. "Teacher Interview Schedule 1" -- This interview is to be used during November, January, and March. It concerns general information about the administration and logistics of the media involved, specific items of the media which have been particularly noted, and an estimate of student impact.

b. "Teacher Interview Schedule II" -- This interview is to be used during December, February, and April. It concerns general uses of media, work load factors associated with media use, contributions of the media to the teacher.

8. The interview schedules should be viewed as a set of guidelines for the interview, rather than a set of questions to be followed in specific sequence during the course of the interview. The primary questions set the boundaries of the discussion for the interview, while the probe questions are reminders for the resident of specific information to be elicited from the teacher if he does not contribute this in the course of his answer to the primary question(s).

   In general each interview features major questions with several "sub-probes." The Resident will seek to sustain the flow of the interview and accept the comments of the teacher as they arise. The sub-probes are considered to be a visible checklist for the interview to be certain that no major point has been missed in the interview.

INFORMATION ON THE SCHOOL SITES

The following information is provided as background on the types of communities and schools in which this study was conducted. Descriptions are based upon documents collected from school sources, local Chambers of Commerce, and newspaper reports related to the schools. Census statistics provided are from the 1960 census reports. (In the case of Scott Montgomery School in Washington, D. C. the census statistics are for the specific census tract in which the school was located. While providing more specifically relevant data than census figures for Washington, D. C. in its entirety, the census tract used was far larger than the total area served by Scott Montgomery School; the census data, therefore, do not have the same degree of relevance to the school situation as do the data for the other communities.) Data for the personnel of the various schools was collected by project residents of this study. Information is provided for the total staff of the Terrell schools since all the schools did participate in Project Discovery, even though this immediate report reflects only data from the elementary schools of Terrell.

Mercer Elementary School
Shaker Heights, Ohio

The Shaker Heights community, which lies south of Cleveland's city limits, covers an area of 6.5 square miles. According to the 1960 census data, the population of Shaker Heights is approximately 36,460. Within this number some 32% are college graduates while 79% are white collar workers. The median age of the community is 40.1 and there is a median income of $13,933 per family per year. Some 67% of the families have an income of more than $10,000 per year. As these statistics indicate, Shaker Heights is one of the highest suburban communities on the socio-economic scale of the nation.

There is a long history of dedication to excellence in education which emerges from the records of the Shaker Heights community. While in no sense avid experimentalists, the community has always been ready to change when excellence and good judgment so dictate. The central office of the school district presently enjoys the full time use of a UNIVAC computer which is utilized for the keeping of complete sets of data on each student in the system. A modern audio-visual center serves the entire system with the latest equipment.

With the high percentage of professional and managerial occupations in the community, the school system is, of course, academically oriented. In June of 1966, 94% of its graduates were accepted by the nations colleges. Pupil-teacher ratio throughout the system is about 1-25. There are twelve elementary schools, two junior high schools, and one senior high school. Mercer is the largest elementary school in the system with an enrollment in 1965-66 of 737 students. It provides a program for grades K-6.

The staff of Mercer consists of 26 classroom teachers, one full-time librarian, one film center assistant, one library aide, an art teacher, three music teachers, one French teacher, and two physical education teachers. Its special services staff is composed of a psychologist, a social worker, a nurse, and a speech therapist. Four custodians complete the staff. The principal of Mercer has an administrative assistant. There has been a considerable amount of stability on the staff of Mercer since its beginning.

There is a library of over 11,000 volumes at Mercer and there is constant use of its facilities by all classes under the supervision of the full time librarian. As is true of the entire system, almost all of Mercer's students are college bound. There is a good deal of involvement on the part of parents in the program of Mercer and frequent opportunities for communication between teachers and parents. Frequent issues of a newsletter containing information on current developments within the school is mailed to all parents.

Thomas Edison School
Daly City, California

Daly City is the northernmost city in San Mateo County, immediately adjacent to San Francisco. Since 1950, the City has experienced a phenomenal rate of growth. The 1960 Census lists the population as 44,791; by 1965 it had reached 60,500 and by 1970 they expect to add another 21,000. With the annexation of Bayshore City in 1963, Daly City gained some large industry and land available for future industrial growth. The city now covers approximately 10 square miles.

A wide range of homes are available in Daly City. The costs go from $17,500 to $50,000. Homes are popular in this area because of proximity and easy access to San Francisco. Many apartments are available throughout the city. There are more than 980 business and professional firms in Daly City. The major industry is centered in the Bayshore section. Median family income is about $9,000 per year. Thirty per cent of the residents make over $10,000 per year. Over 10% of the residents are college graduates and the median for school years completed is 12.3.

Daly City is part of the Jefferson Elementary School district which serves about 9,500 children from three suburban communities adjoining San Francisco on its southern boundary. There are 20 schools in the district and the area which it serves is almost entirely residential. The people in the district are largely business, professional, and skilled workers interested in and supportive of education. Readily accessible to the area are several universities and colleges. A large number of the students who graduate from schools in Jefferson Elementary School district enter these or other institutions of higher education in the country. A competitive salary schedule, thoughtful personnel practices, and a splendid geographic location make this district one of the most sought after in the nation by applicants for teaching positions. At the start of the 1965-66 school year were 47 positions to fill and some 1800 applications.

Thomas Edison School is one of the 20 in the district. It has a student population of 748. The staff is made up of 21 classroom teachers in grades K through 6. There is a full-time librarian, a nurse, consultants in art, music, speech, health, physical education, foreign language, curriculum, psychological services, and instructional materials. The principal has a full-time secretary and complete custodial staff. The school has complete library facilities and the building is a modern single level type.

Scott Montgomery Elementary School
Washington, D. C.

The city of Washington, D. C., which is at the center of a metropolitan area of over 2.5 million people, has a population of 815,000. Scott Montgomery Elementary School is part of the Washington, D. C. public school system.

Like every big city in the United States, Washington faces a myriad of problems, all of which impinge upon the task of public education. As the ninth largest city in the U. S., Washington has 10,000 families classified as outright poor. Sixty-one per cent of the city's people are Negro with a median age of 27 and whose average annual wage is $4,800 per family. The housing market for low-income people is so strained that it is not uncommon to find entire families living in a single room. Unemployment in the inner city is higher than in outlying areas of Washington and there is concern over the crime rate in such city areas.

The public school system of Washington is directly responsible to Congress for its financial operation. Congress relates to the schools of the city through its Senate and House District Committees and through the institution of the D. C. Commissioners. The Board of Education members are appointed by three Federal District Court Judges. According to the last annual census there are 145,460 students in the city system, 90% of whom are Negro. As in many city systems, the school buildings are old and suffer from deterioration. Sixty-seven buildings, 36% of those currently in use, are more than 50 years old. Two thousand elementary school children attend half-day sessions because of space limitations.

In attempting to face the problems which affect the city schools, Washington has set up an experimental "model school system" in what is called the Cardozo area. This is the Model Schools Division which consists of 19 elementary schools feeding Cardozo High School; these schools are spread over an inner city area which they serve by creating special programs to involve the parents of their students in the educational effort. Scott Montgomery Elementary is one of the 19 elementary schools in this Model Schools Division.

During the 1965-66 school year, Scott Montgomery averaged 675 students. There were 21 classroom teachers, one language arts specialist, a librarian, a counselor, a principal, a secretary, four custodians, a lunchroom hostess, three library assistants, and three clerical aids. The school is located in a neighborhood which, according to the 1960 census has a population of which 51.3% live in substandard housing and 27.2% of the homes are crowded beyond capacity. Family median income is at the $3,000-per-year level; average number of years spent in formal education for adults in the area is 7.3.

As part of the Model Schools Division there are a number of projects constantly underway at Scott Montgomery which are related to the attempt to meet the problems of inner city education. Because of the housing problems in the neighborhood surrounding Scott Montgomery, the student population changes considerably over the year. The entire student population of Scott Montgomery was Negro during the last school year.

Terrell Public Schools
Terrell, Texas

The city of Terrell is located in the northeastern section of Texas, about thirty miles east of Dallas. The estimated population in 1965 was 14,900, a growth of about 1,000 since 1960. Population within a 20 mile radius is approximately 100,000 and Terrell is the largest city in Kaufman County. The economy of Terrell rests on some 19 local industries, a large agricultural income (over $8,000,000 in 1964), and general commerce from local retail and wholesale trade activity. The estimated buying income in 1964 was $25,000,000 while the mean income per household in the same year was $6,000. Terrell has a Carnagie Public Library which contains over 14,000 volumes and two youth centers; it is also within 30 minutes of the cultural facilities of Dallas. Area resources include: an abundant water supply, brought about by the construction of Lake Tawakoni; an adequate supply of electrical power and natural gas; a supply of skilled, semi-skilled, and unskilled labor available locally.

The Terrell Schools serve a district of some 200 square miles. Student population of the district is approximately 3100. There are 140 teachers who staff the Terrell schools. In all there are five public schools; three elementary, and two junior-senior high schools. Two of the newly constructed buildings are windowless and completely air-conditioned which is an asset for easy use of audio-visual materials and equipment. These include $1,700,000 in new construction on one elementary and the two junior-senior high schools. In addition to these public school facilities, Terrell has a junior college - Southwestern Christian College. Six four-year colleges, several junior colleges and the Baylor University School of Medicine are all within commuting distance. The five public schools mentioned above offer a program for grades K through 12 which includes newly created vocational training programs.

Typical of many southern communities of this size, one part of Terrell is predominantly Negro, while the other part is predominantly white. Terrell High School, and the Primary, and Intermediate Schools were integrated during the 1965-66 school year with some 30 Negro students attending these schools. Staff integration is likewise taking place. Library facilities are below desired standards in some schools, but substantial improvements are being made.

The student population of Terrell covers a wide range of socio-economic and cultural levels. There are concerns with regard to culturally deprived children as well as with highly gifted students.

Staff in the system is relatively stable. Many of the teachers have settled into the immediate locality and served on the staff of the public schools in Terrell for most of their professional careers.

DEMOGRAPHIC INFORMATION ABOUT THE SITES (U.S. CENSUS - 1960)

DATA	U.S. AVERAGE	SHAKER HEIGHTS	DALY CITY	WASHINGTON D.C.	TERRELL
Land area		6.5 sq.mi.	4.2 sq.mi.	(1 tract)	
Total population		36,460	44,791	9,715	13,803
Population increase 1950-1960	18.5%	29.2%	194.9%	NA	19.6%
Non-white population 1960	11.4%	2.0%	0.6%	55%	37.3%
Population under 5 years	11.3%	6.8%	14.2%	2.1%	9.3%
Population 21 years and over	60.3%	68.3%	59.9%	65.2%	67%
Population 65 years and over	9.2%	12.2%	4.3%	9.0%	14.5%
Median age of Population (years)	29.5%	40.1	28.2	31.1	37.0
Total married couples		7,242	11,327	2,001	2,440
Median family income (1959)	$5,660	$13,933	$8,000	$6,614	$3,722
Families with income under $3,000	21.4%	5.1%	5.8%	2.2%	40.9%
Families with income $10,000 and over	15.1%	66.9%	27.9%	5.3%	6.7%

DATA (cont)	U.S. AVERAGE	SHAKER HEIGHTS	DALY CITY	WASHINGTON D.C.	TERRELL
Median school years completed	10.6	13.2	12.3	11.7	8.7
Population 25 years and over completed high school or more	24.6%	76.1%	60.5%	28.2%	7.4%
Population 25 years and over college graduates	7.7%	31.7%	10.3%	6.1%	3.8%
School enrollment in kindergarten and elementary		5,901	8,090	1,512	1,804
Unemployed	5.1%	2.0%	3.9%	2.7%	1.8%
Employed in work outside county residence	13.9%	4.1%	77.9%	12.9%	21.2%
Housing in one-unit structures - 1960	70.1%	57.8%	84.4%	50.4%	93.2%
Housing in structures built since 1950	27.5%	29.6%	67.9%	7.3%	25.4%
Population per housing unit	3.0	3.1	3.3	3.25	3.0
Housing units with 1.01 or more persons per room	11.5%	0.7%	6.2%	9.6%	10.2%
Median value of housing (owner occupied)	$11,900	$34,500	$18,300	$14,200	$5,600

DATA (cont)	U.S. AVERAGE	SHAKER HEIGHTS	DALY CITY	WASHINGTON D.C.	TERRELL
Median gross rent per month (includes utilities)	$71	$168	$104	$82	$52
Housing units vacant for rent (year-round available)	6.7%	59.3%	43.9%	1.4%	7.1%

GENERAL DATA ON SCHOOLS: TEACHER PERSONNEL INFORMATION

School	Number of Males	Number of Females	Age Range	Mean	Temporary Certificate	Permanent Certificate	Bachelors Degrees	Masters Degrees
Scott Montgomery School Washington, D. C.	3	21	23-56	(44)	12	12	17	6
Mercer School Shaker Heights, Ohio	1	25	22-56	(40)	12	14	17	9
Thomas Edison School Daly City, California	3	22	23-61	(33)	--	25	20	5
Terrell Public Schools Terrell, Texas	41	89	21-65	(38)	60	70	90	39

RELATED DATA ON MEDIA USE

As part of the media-use studies, records were sought in each school district which would reflect the prior year's classroom' use of media. Because each participating school was, in prior years, using a service beyond the building and beyond the district, it was impossible to determine accurately the increased levels of use achieved. Some records were obtained for four of the eight buildings discussed in this study. Somewhat comparable records existed for Mercer School at Shaker Heights, Ohio, since this was the second year of its participation in "Project Discovery." These records indicated that for the second year of the project at Mercer, motion picture use increased approximately ten percent while filmstrip use remained virtually the same. For the other three buildings, where incomplete but relevant records were available, positive increases in use were indicated for films and filmstrips in all buildings. In the one case, where the records provided some confidence the increases under "Project Discovery" were: Motion Picture Use increased 140% and Filmstrip Use increased 220%.

Student Use Data. Each school and this study attempted to accumulate records of student use of materials. The data collected are presented on the table on page B-12. Of this recorded use, 48% was recorded at Mercer School and 43% was recorded at Thomas Edison School. These data are neither complete nor absolutely accurate. In the case of student use of materials, each school operated in slightly different ways. Regardless of the individual building regulations regarding student use, records were maintained in different ways. Obviously, some students were too young to personally complete the required records. For older students who could complete the cards, many gave incomplete information. The records verified by this study did not agree in every instance with comparable statistics produced by individual school media centers. Thus, the data on the accompanying table must be viewed as a basic minimum of student requests for materials use which has been verified by this study. No additional inferences should be made as to location of use, amount of time spent in viewing, purpose of viewing, or similar factors.

RECORDED STUDENT USE OF FILMS AND FILMSTRIPS*

Grade	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	Total	Percent of Total
Kindergarten	2	10	30	3	11	4	6	0	9	75	--
First	1	17	31	10	81	104	231	129	143	747	4%
Second	42	86	241	171	277	355	464	269	385	2290	14%
Third	77	120	104	67	505	512	467	224	403	2479	15%
Fourth	194	204	367	272	457	681	506	464	392	3537	21%
Fifth	187	250	246	528	788	673	689	346	374	4081	24%
Sixth	70	340	251	115	514	491	507	360	484	3132	19%
Total	573	1027	1270	1166	2633	2820	2870	1792	2190	16341	100%

(* See comments on Appendix page B-11.)